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THE JOURNAL

of the

Missouri State Medical Association

The Official Organ of the State Association and Component Societies

Issued Monthly Under Direction of the Publication Committee

PUBLICATION COMMITTEE

J. C. B. DAVIS, M.D., *Chairman*

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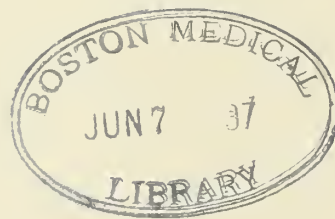
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E. J. GOODWIN, M.D., Editor
1023 Missouri Building, St. Louis, Mo.
Telephone, Jefferson 5261.

PUBLICATION COMMITTEE { J. C. B. DAVIS, M.D., Chairman
G. WILSE ROBINSON, M.D.
M. A. BLISS, M.D.

RECENT ADDITIONS TO THE ARMA- MENTARIUM FOR FRACTURE RE- DUCTION AND RETENTION*

EDW. P. HELLER, M.D.

KANSAS CITY, MO.

Because it is felt that a definite step forward has recently been made in the care of certain fractures, the essayist wishes to outline a few of the practical points concerned with these fractures as seen at the General and Research hospitals in Kansas City. The essayist wishes at this time to acknowledge the help of Dr. R. Mc E. Schaffler in awarding cases for the study and application of these newer methods. Ideas of Dr. M. W. Pickard and others engaged in traumatic surgery in the Research Hospital are freely used and are gratefully acknowledged. The methods chiefly considered are those of Böhler, of Vienna, as employed by Dr. S. R. Cunningham, of Oklahoma City. The latter has applied most aptly to the American patient the principles which Böhler applies to the Austrian. It is well to note here that there are certain of Böhler's methods which would unquestionably not be tolerated by the average American citizen. Therefore, what is discussed here is technic which has been repeatedly used on Americans and found to be well tolerated by them.

The problems concerning us in fractures of the long bones are chiefly as follows:

1. Sufficient traction to overcome shortening.
2. Difficulty of applying traction in certain locations (fractures of lower leg, hip, etc.).
3. Lack of appliances affording good retention and at the same time capable of minor adjustments to correct position from time to time.
4. Lack of an alternative to cumbersome casts, general anesthesia and recumbency in certain fractures in the aged.
5. Lack of a good method, without the use of foreign material, in compound fractures following debridement or during dakinization.

6. Difficulty in restoration of function where extremity of necessity had to remain in plaster.
7. Avoidance of secondary operations to correct deformity, remove metal plates, etc.
8. An appliance or method for immediate use requiring no subsequent change until union takes place.

To illustrate the difficulties encountered in fractures of the leg I went to the 1929 records at the Kansas City General Hospital. From these I chose at random cases of that year in which the fragments were displaced on admission. Figure 1 illustrates four cases—the first four encountered which filled the requirement of displaced fragments when admitted. It must be stated that these were not all primarily treated in the General Hospital, and after admission were not all cared for by the chiefs of the fracture services. They do, however, represent the average results of the average busy charity fracture service in 1929.

REPORT OF CASES

Case 1. J. G. Posterior bowing of leg as of February, 1929. The first roentgenograms made at the hospital were dated Feb. 21, 1927. Others made in March, 1927, showed a Parham band in place, the bone ends apposed, but posterior bowing, foot drop and bone atrophy. The end-result here shown speaks for itself.

Case 2. M. C. Fracture of the lower third of the tibia with typical posterior displacement of the lower fragment as of Aug. 6, 1929. Note foot drop. The same condition obtained at the time of admission July 31, 1929, and before application of the cast.

Case 3. M. C. Another fracture of the lower third of the leg the day after application of cast, July 16, 1929. Note the medial displacement of the lower fragment. A Lane plate was applied in August and roentgenograms as late as October, 1929, show no appreciable callus formation although good alignment was secured at operation.

Case 4. D. R. B. Fractures of the upper ends of the tibia and fibula. Note the direction of the line of weight-bearing of the upper fragment in relation with the lower fragment as of August 15, 1929. The first pictures were made July 8, 1929. The next films bear the date of July 10, 1929, and showed the leg in plaster, no attempt or an unsuccessful attempt having been made to reduce the deformity. (The roentgenogram is of the leg in plaster six weeks after admission.)

* Read at the 74th Annual Meeting of the Missouri State Medical Association, Joplin, May 11-14, 1931.



Fig. 1. Types of fractures of leg and deformities so difficult prior to use of Böhler procedures.

Since the introduction of the Böhler splint into the fracture service at the Kansas City General Hospital in September, 1930 (service of Drs. Dickson and Diveley), a score of fractures has been treated on this type of frame. A number of frames were made and during the fall and winter of 1930-1931 practically all compound fractures of leg or thigh were treated on them. The results were highly satisfactory, in our opinion. I will illustrate the virtues of the appliance incidental to the case histories given in brief. Figure 2 illustrates four cases as nearly analogous to those shown in figure 1 as it was possible to find.

REPORT OF CASES

Case 1 a. C. Compound fracture of both bones of the leg in the lower third with massive hematoma of the leg and destruction of skin. This lad was placed at once (Nov. 16, 1930) on a Böhler splint. Prior to application of skeletal traction position was temporarily maintained with skate cleat on sole of shoe attached to weight cord. The debridement was done early without removing the leg from traction. Dakinization was used and on several occasions minor adjustments were made and loose fragments were removed. Note that position was maintained until callus formation was sufficient and wound secretion minimal when a cast was applied (Jan. 14, 1931) and the patient allowed up and about in a wheel chair.

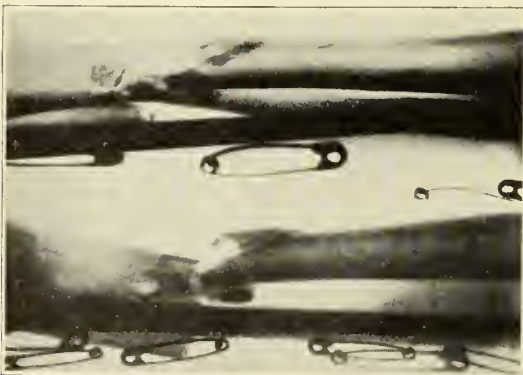


Fig. 2 a



Fig. 2 b

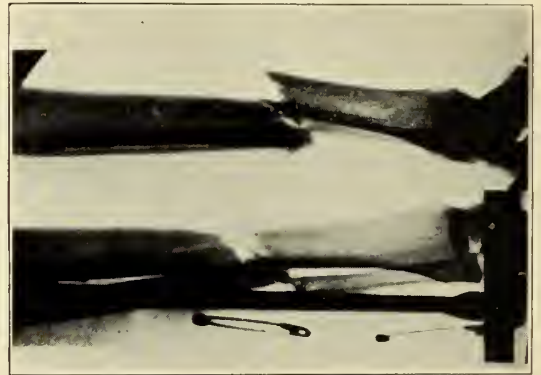


Fig. 2 c



Fig. 2 d

Fig. 2. Illustrative cases showing difference since use of Böhler traction principles.

Case 2 b. L. Compound fractures of both bones of leg with considerable comminution. There was a coincident skull fracture and fracture of the right humerus. The lad was in coma and delirium for about two weeks. The leg was placed at once in a Böhler frame and debridement done (Jan. 5, 1931) under local anesthesia. A Steinmann pin was inserted at the same time and the wound dakinized from then until suppuration had practically ceased. Note that the alignment was maintained and fragments which appeared at first to be of questionable vitality have become incorporated in the callus. In

this case as in all of this series no trouble was had with drop foot or pain and no foreign material other than Dakin's tube or drain was used. (Admitted Jan. 2, 1931. Cast applied Feb. 14, 1931.)

Case 3 c. F. J. Compound fracture of the lower leg. Steinmann pin and Böhler frame used early and wound dakinized. The film shows safety pins holding sling under entire length of the leg. This is a mistake. Since the advice of Dr. M. W. Pickard has been followed and the calf of the leg has been permitted to sag we have had much less trouble in controlling the upper fragment and have not had to use pressure pads over it, as was formerly done. Even so, the alignment is quite good as will be seen in figure 2 c. (Admitted Nov. 30, 1930. Cast Dec. 31, 1930. Discharged Jan. 16, 1931.)

Case 4 d. G. Simple fracture of both bones of the leg, that of the tibia being in the middle third, spiral and overriding. This limb was placed in a Böhler frame and a Steinmann pin used for traction almost from the time of admission (Dec. 15, 1930). Note the overriding completely overcome and the alignment maintained so that if open reduction should become necessary, as it often does in this location, the use of a bone inlay would be a relatively easy matter. It may be said here that if case 4 (figure 1 d) of 1929 had come to us in the past 6 months a Kirschner drill would have been passed through the proximal tibial fragment and by upward traction at 45 degrees with the leg, whilst longitudinal traction on the lower fragment was maintained, the deformity could doubtless have been corrected on a Böhler frame.

Figure 3 illustrates the two most widely used appliances of Böhler. The upper photograph shows a leg in a Böhler (Braun) frame. The canvas slings under the thigh and knee may be seen. Note that the calf is permitted to sag. The Steinmann pin and caliper cannot be seen distinctly, but it will be noted that the traction cord from the calipers runs over the pulley projecting beyond the foot of the bed. Note the right angle at which the foot is easily held. On the far side of the bed will be seen a padded box against which the patient maintains his position in bed if the traction is great or he is obliged to help himself onto a bed pan. A brick under the upper end of the frame is sometimes a convenience if the mattress is too soft or for use while on the bed pan. A trapeze suspended from overhead is used by the patient to help change position, lift himself while sheets are changed, etc.

The lower photograph shows a Böhler screw traction apparatus with leg suspended preliminary to the application of plaster cast. Notice that ordinary gas pipe was used in construction, and that a bar beneath the thigh has set screws at either end which permit its elevation and retention at any desired level. The frame may be elongated by loosening the set screws shown beneath the calf of the leg and pulling the two ends apart. For overhead support a section of metal from a Goldthwaite frame is generally used although a section of



Fig. 3 (1)

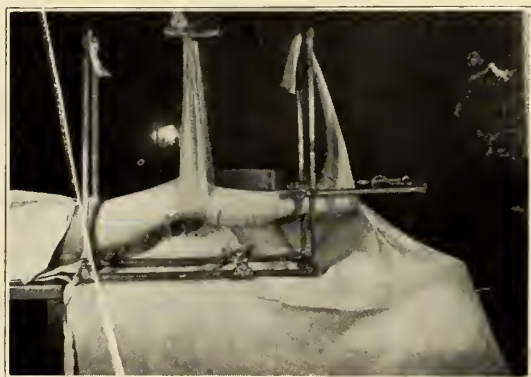


Fig. 3 (2)

Fig. 3. (1) Böhler's adaptation of Braun frame. (2) Böhler's screw traction apparatus for fractures of leg and foot (author's adaptation) with leg in position for casting.

gas pipe may be held in place by bandages and has been so used by the author. A hook on a thumb screw is shown projecting through the transverse pipe of the section extending beyond the foot. If the groin is padded and the frame pressed firmly into the crotch, a good deal of longitudinal pull may be exerted through this hook if a few turns of plaster are passed through it after first encircling foot and ankle. In fact, it is expedient in certain fractures, notably of the os calcis, to leave the calipers on and attach them to the hook, thus incorporating the Steinmann pin or Kirschner drill in the plaster cast. In using the frame for fracture of the os calcis it is completely shortened; the cross bar, shown here beneath the gluteal crease, is fixed at a point coinciding with the flexed knee and is well padded. Tongs or Kirschner drill passed through the calcaneus, with metal bow (fig. 8 b) or Steinmann pin, are then attached to the hook and energetic

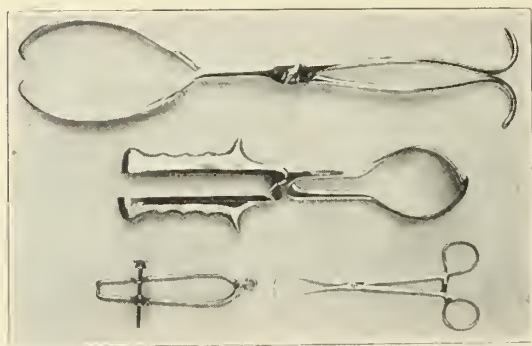


Fig. 4. Appliances used for skeletal traction. (1) Mock's caliper for use in metacarpal or phalangeal fractures. (2) Towel clamps which may be used to accomplish reduction and then silver wire passed through the insertion of a flexor tendon attached to the wire loop to maintain extension. (3) The author's forceps for correction of position of fragments through window in cast, for leverage during open or closed reduction of fractures, for holding bone during plating, and for use in countertraction at the lower humerus in reduction of fractures of the forearm. (4) Tongs also made from an old pair of obstetrical forceps. These have a wide range of usage in skeletal traction where no permanent extension is required, or for temporary traction during insertion of Kirschner pin or application of cast.

traction maintained until reduction is secured and then cast is applied. A tenotomy of the tendo achillis according to the method of Straus may or may not be done as a preliminary. A canvas sling under the ankle and lower leg is absolutely necessary or, better, a Kirschner wire through the lower third of the tibia, giving additional fixation of the leg while the flattened os calcis is being reduced by screw traction.

This frame will appeal to any one who has much fracture work, as the back-breaking job of holding the leg, changing hands, alignment of foot, proper angle of knee and other details are all prearranged and provided for once the leg is adjusted in the frame. One assistant or a nurse to pass plaster is sufficient help for the average case.

Figure 4 illustrates a few aids to skeletal traction. (1) The Mock-Ellis caliper, for use in fractures of the phalanges, metatarsals and metacarpals, is clamped in place under local anesthesia, as a rule, and traction is secured by attaching the hook to a rubber band and the latter to a wire loop—the so-called banjo splint. (2) Illustrates an ordinary towel clamp which is of considerable use to reduce fractures of the phalanges and hold the fragments until the permanent fixation, silver wire, aluminum splint or plaster is applied. Dr. Cunningham has applied traction with such a clamp at the end of the middle finger metacarpal and has by this means been able to reduce dislocated carpal semilunars. (3 and 4) Are made-over obstetrical forceps. The shorter one (3) is of considerable use in making adjustments through windows in plaster casts. It may be boiled and

used to lift a limb surrounded by sterile dressings on a Böhler frame, to correct deformity, adjust slings and for other purposes. It may be used to hold an arm or a leg during the application of plaster and then may be removed through a small window by simply unlocking the forceps and removing them exactly as obstetrical forceps are removed from a fetal head.¹ (4) This forcep was originally intended for traction on the os calcis where through and through wire penetration is not at first desirable owing to a longitudinal splitting of that bone. By traction and manipulation the fragments may be brought into a favorable position for the passage of a Kirschner drill and this used for the permanent traction. It is a convenience to have it on the instrument table when traction on the leg or thigh is contemplated and where otherwise contamination of the sterile drapes is a real danger. It may be applied to the femoral condyles, the malleoli, the os calcis, or the lower radius. Soft tissues are first displaced so that the tongs penetrate only the integument and bone.

Figure 5 shows the Kirschner drill with one of the small caliber wires attached. The wires have a drill point and are rustless. I have found it best to select several wires of the sizes likely to be used and insert one into the drill clamp prior to boiling the instrument. All that is then necessary is to prepare the skin over the desired bony point and inject 2 per cent novocaine solution into the skin and soft parts down to the bone. The projecting wire point is readily thrust down to the bone. The crank is then turned deliberately and not too rapidly, an assistant pressing the outermost guard against the skin thus helping to direct the wire through the proper point and in the proper direction.

After the wire has sufficiently penetrated, the set screw is unscrewed, the drill removed from the wire and one of the traction bows clamped over the wire as shown at 4. A number of sizes other than those illustrated (2, 3 and 4) have been made at very low cost by a local machinist.

Hooks such as shown (5) are used to connect the bow with the traction cord, or smaller hooks are used through the perforations. By means of the extra holes, off-center pull may be exerted thus helping to overcome lateral angulation of fragments or making up for some minor deviation in the direction taken by the wire in its penetration of the tissues.

Three of the usual sizes of rustless wires are shown, the largest being slightly smaller than the lead in a pencil. When the wire ends have been slipped into the slots on the threaded ends

1. Heller, Edward P.: Leverage Forceps for Fractures of the Leg, *J. Missouri M. A.* 25:578, 1928.

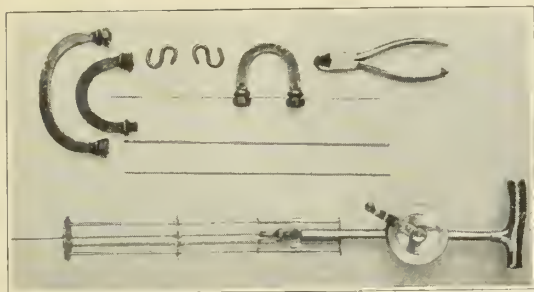


Fig. 5. (1) Kirschner drill for use in passing rustless wire through bone at olecranon, femoral condyles, tibia or os calcis. The figure shows the guards fully extended, the point of the drill projecting about 1 inch. As the drill wire penetrates the tissues the guard collapses. When penetration is complete the drill is unscrewed and the ends of the wire are tightly clamped into notches of traction bow (2, 3 and 4) of appropriate size. (5) Hooks to connect bow to weight cord. (6) Drills of various sizes made of rustless steel. (7) Wire nippers.

of the traction bow, the nuts are turned down tightly upon the wire with a wrench and no amount of pull will bend the wire enough to cause any perceptible bowing. The excess wire may be covered with cork at either end, or nipped off with wire nippers such as shown (7). I have yet to hear a patient complain of this wire traction method. They do not feel the wire enter the tissues and on withdrawing it there is invariably an expression of wonder that it is out. No special preparation of the skin is needed—simply soap and water and then 7 per cent tincture of iodine. I have not seen an infection follow the use of this drill or of the Steinmann pin.

Figure 6 illustrates a type of dressing for fracture of the humerus, especially at the surgical neck. The metal loop is incorporated in the plaster cast of the shoulder and arm. In the case shown, the fracture was of the surgical neck and about 36 hours old. Excellent relaxation and perfect anesthesia were secured by the injection of 2 per cent novocaine solution into the fracture site and about the olecranon and upper ulna. After the cast was applied as shown, a Kirschner wire was drilled through the olecranon and a traction bow attached. As will be seen, a rubber band was used to maintain the pull, and at the end of a day had separated the forearm from the upright plaster shell a full two inches. Some of this was slack taken up against the chest wall but a good deal was traction effectively applied at the fracture site.

The author has twice applied the Kirschner wire and traction bow on an ordinary Campbell splint. Dr. Cunningham, of Oklahoma City, has a series of old dislocations of the shoulder irreducible by other closed methods but readily reducible by skeletal traction identical with that herewith delineated. The hand should not be encased in plaster, for the traction is often



Fig. 6. Showing method of extension for fractures or dislocation of the humerus, the Kirschner wire passing through the olecranon after method of Dr. S. R. Cunningham. The traction is maintained by rubber bands, by a turnbuckle attached to wire extending from the cast as shown, or by pulley and weights.

great enough to draw the elbow well out and if the hand is not reasonably mobile it will be injured in extension. It should be held against the upright by a snug but not tight bandage or a towel pinned about the forearm. Pulley and weights may be suspended over the outrigger instead of using rubber if the case seems to require it.

There was a time when over-extension of fracture of the femur was almost impossible to attain but with the Böhler splint and a Kirschner wire through the femoral condyles the danger of too much traction is a real one. The ease of applying this wire drill and traction bow is nowhere so manifest, and is far more simple to use than a Steinmann pin, calipers or Böhler nail. The skin is simply iodinated at the point of entry of the wire and a wheal of novocaine produced at this point and at the site of exit.

Figure 7 shows a femur in a Böhler frame with skeletal traction at the knee and skin traction at the leg. The case was one of Dr. M. W. Pickard's and there was marked angulation at the fracture site in the middle third of the femur with 2 inches shortening. Kirschner drill was used within 24 hours and during the entire time of its use no pain was suffered from it while the shortening was converted into a problem of over-extension. Note the various locations of pulleys and especially the line of traction from the bow at the femoral condyles to the uppermost pulley. In fracture of the femoral neck this one traction cord alone will suffice. The thigh and knee are supported on pads placed on the canvas slings while the leg may be allowed to come down, with the heel on a ring on the mattress or sling on the horizontal portion of the Böhler frame as shown in

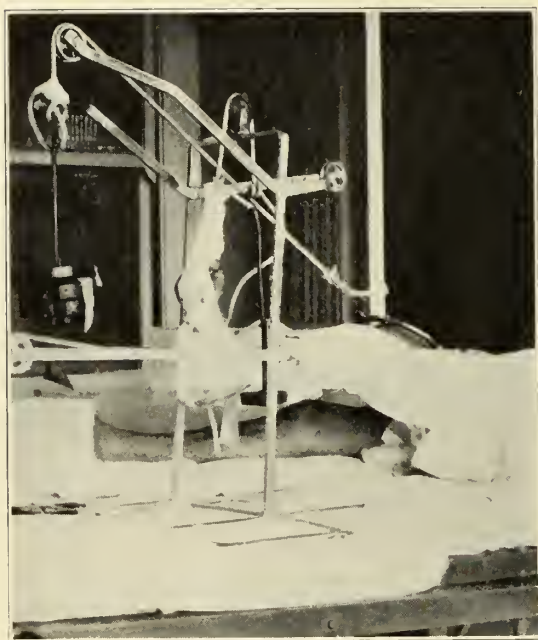


Fig. 7. Shows method of applying extension to fractures of the femur (case of Dr. M. W. Pickard). Note that Kirschner wire through condyles is attached to traction cord in line of femur while horizontal extension is also applied to the leg on the Böhler frame. It is seldom if ever necessary to use both types of traction in the same individual. Note foot drop prevented by simple overhead cord through pulley fixed to frame.

figure 7. The patient may be propped nearly upright in bed and is remarkably comfortable. The results in the few cases seen by the author are so good that it appears likely that hip spicas will soon be a thing of the past.

Where the fracture involves the femoral condyles or there is too much comminution in the lower third of the femur the Kirschner wire is passed through the upper tibia. In this region the peroneal nerve is to be avoided but this is not difficult to do. The line of traction is then the same as shown in figure 7, except that in this type the gastrocnemius pull is best abated by more flexion of the leg than is shown. By use of the series of perforations in the traction bow a satisfactory correction of lateral deviation is usually possible.

We come now to a consideration of a fracture which does not usually receive adequate care even in the best hands and authorities are pretty well agreed that 25 per cent plus of permanent partial disability is a fairly average result. I speak of fractures of the os calcis. Böhler has made a real contribution to the solution of the problem. He places the leg in a screw traction frame, puts a rustless nail through the lower tibia to give a secure firm point of fixation while downward pull is being made on the os calcis, following a moulding of the bone into some semblance of normal contour by a vise. The foot and leg are then

encased in plaster with the pressure points well padded. Straus, of Chicago, by the use of a Steinmann pin has accomplished much the same results but has not provided for care of the mushrooming of the bone.

In figure 8, upper figure, is shown a roentgenogram of a patient which the author treated by a combination of the methods of Straus and Böhler. The os calcis was split longitudinally, or bivalved, in such a way that a Kirschner wire could not be used. Consequently a Steinmann pin was passed through the soft parts just proximal to the os calcis and, with the leg in a Böhler screw traction frame, vigorous pull was made on the pin. The leg being at right angles in the frame there is little if any tendo achillis pull by Böhler's method and tenotomy is seldom necessary. The roentgenogram shown is not a true lateral but brings out the points just mentioned. Had the patient not been running a temperature of 103 to 104 degrees a general anesthetic instead of a local would have been used and I am sure much better reduction would have been accomplished. The wires incorporated in the plaster are shown, and it was to a loop made of this wire projecting downward and backward that the Steinmann pin was secured with thongs in order that traction might be maintained.

The lower roentgenogram of another of the author's cases, put up in a Böhler frame for fracture of the tibia, shows the ideal treatment for fracture of the os calcis. The wire passing through the bone is obscured by the bolt ends of the traction bow. Note that the foot is held at right angles with the leg and the arch preserved if not accentuated. Recently, in a compound comminuted fracture of the os calcis I was able to run the wire through the major fragment and attain this position reasonably well.

From what has been shown it may be seen that we are at last armed with tools that more accurately localize our efforts to the fracture site. By means of a fine wire drill, painlessly inserted at a large variety of locations, we are able to exert traction almost at will. Weights do for us what formerly could not be done or which required the expenditure of considerable human energy. Judging from cases thus far treated, the operative work on fractures of the extremities will be reduced by half where skeletal traction and the Böhler-Braun splint are used. If the Böhler splint does nothing more than replace the pernicious and antiquated fracture box it will have served a most worthy purpose. The Steinmann pin has always been a useful appliance and will remain an instrument of choice in certain locations, but for simplicity, comfort and general adapta-

GASTRO-INTESTINAL ALLERGY *

L. P. GAY, M.D.

ST. LOUIS

Allergic reactions within the abdomen are quite varied in symptomatology and are accordingly difficult to recognize. Reactions due to the ingestion of food to which a patient has become sensitized range widely from brief but excruciating attacks of pain to mere discomfort described as indigestion. The condition occurs much more frequently than is generally suspected. It has been pointed out that a history of skin manifestations of allergy should make one suspicious of a similar reaction within the gastro-intestinal tract but unfortunately a definite history of associated allergy is too frequently lacking. Alvarez in 1929 remarked that, "What is most needed today is a definite answer to the question: Can one in searching for the cause of vague indigestion exclude allergy or sensitiveness to foods when the patient has never suffered from urticaria, hay-fever, or asthma?" This question, with the additional observation of negative family histories, has been answered in the affirmative in 55 per cent of the present small series of forty cases.

The case history is important and requires most searching questioning to bring out associated symptoms suspicious of allergy that help in the final diagnosis. Any type of abdominal pain or disorder associated with urticaria, asthma, or hay-fever should be suspected as allergic in origin until it has been proved otherwise. In the absence of multiple allergy there are other suggestions that may be helpful. An allergic individual may have had an occasional attack of urticaria in childhood or may have had an occasional unexplained rash or eczema. It is common to find that these patients have frequent colds and are inclined to sinus infections. Morning sneezing is not uncommon and may occur at any time of the year. A history of a dislike or an absolute aversion to a food material may be elicited in an otherwise negative history. Food disagreement in infancy or childhood that subsequently disappears is indicative of an allergic tendency. Though there is no selectivity in the parts involved in inheritance, a family history of asthma even though remote is suggestive. In many instances the chronicity of symptoms alone, with many examinations and much treatment without relief, suggests food idiosyncrasy. The practice of taking enemata and purges is common and gives relief even if there is no constipation. The allergic individual who com-



Fig. 8 (1)



Fig. 8 (2)

Fig. 8. (1) Roentgenogram of comminuted fracture of os calcis showing Steinmann pin placed above tuberosity, and wire incorporated in plaster cast of leg to which extension was attached for downward pull on the bivalved fragments. Note the angle between foot and leg well maintained, but position of os calcis not ideal. Reduction under local anesthesia was obligatory. (2) Roentgenogram taken of one of the author's cases of fracture of the leg, showing Kirschner wire through os calcis and ideal position of foot. Note principle applicable to some os calcis fractures with or without Achilles tenotomy.

bility the Kirschner wire drill is the greatest recent addition to skeletal traction in fractures.

In conclusion, then, it may be said that our problems are gradually being solved, for certainly we now have potent means at our disposal for combating and overcoming the eight pitfalls enumerated in the early part of this discourse.

1010 Professional Building.

MULTIPLE MYELOMA AND DIABETES
INSIPIDUS

Mark J. Bach, Milwaukee, and William S. Middleton, Madison, Wis. (*Journal A. M. A.*), report an instance of the coincidence of gross pathologic changes in the bones and diabetes insipidus. Of particular significance were the possible changes in bony structures about the sella. Whatever the interrelationship between the bony lesions and the disturbance in water metabolism, a further example is added in the case of multiple myeloma with associated diabetes insipidus.

* Read at the 74th Annual Meeting of the Missouri State Medical Association, Joplin, May 11-14, 1931.

plaints of chronic indigestion usually feels comparatively free from symptoms on arising but notes gradually increasing discomfort as the day advances. Mental depression, nervousness and fatigue are common complaints, and many of these patients are quite hopeless about their condition.

The complaints, which are usually multiple and in this series are associated with one or more of the conditions listed below, occurred with the following frequency: Gas and bloating 29; constipation 22; attacks of pain in the right upper quadrant 9; vague abdominal discomfort 9; headache 7; ulcer type of pain 5; pain in the right lower quadrant 4; unusual fatigue 4; unexplained attacks of diarrhea 4; alternating constipation and diarrhea 3; nausea 3; lower central abdominal pain 2; epigastric pain 2; left upper quadrant pain 2; choking 2; intestinal cramping pain 1; sour stomach 1. The most frequent association of symptoms was pain, constipation and gas and bloating. For this array of symptoms twenty-one of these patients had been operated upon one or more times with only temporary relief.

On physical examination the entire series showed one thing in common, namely: the evidence of hypothyroidism, later proved by lowered basal metabolic rates ranging from 5 per cent to 24 per cent below normal. A generally sensitive abdomen was frequently noted and tenderness over those portions of the abdomen referred to in the patient's complaint was uniformly elicited. Tenderness in the epigastrium or in the gallbladder or in the appendix region was in several instances quite marked and later found to be dependent upon the presence or absence of offending allergens in the diet. Proctoscopic examination showed a reddened anal canal with reddened rectal mucosa and excess mucus or a grayish mucosa. An excess of mucus is a common finding.

Thirty-two of these patients had complete roentgen ray studies of the gastro-intestinal tract and cholecystograms were made when indicated. A diagnosis of disharmonic colon or spastic colon was made twenty-one times, pathological appendix twelve times, normal cholecystogram eight times, pathological cholecystogram seven times, colonic hypermotility three times, and two examinations were indeterminate.

The blood study showed an eosinophilia varying from one to 10 per cent in all but seven cases, and the bloods not showing an eosinophilia were, with one exception, from patients complaining of multiple allergy or objective signs of allergy associated with gastro-intestinal complaints.

The cutaneous tests were carried out by the

scratch method and though reactions were obtained at times from practically every protein used, wheat, eggs, beef, milk, corn, cocoa, rice, chicken, tomato, pepper, coffee and vanilla gave the most frequent reactions.

Cutaneous tests should be done on any hypothyroid individual who has any type of gastro-intestinal disorder even though an abnormality is demonstrated roentgenologically. Patients of this type who have an eosinophilia are quite likely to be allergic and may get complete relief from symptomatology when put on a proper diet. There is a possibility that repeated localized allergic reactions may so lower the resistance of a tissue that a chronic state of inflammation may exist until the irritant is removed. It is interesting to note that those patients who complained of severe attacks of abdominal pain also complained of marked tenderness on palpation during the attack and later after the pain had subsided. No muscle spasm was ever demonstrated and when offending allergens were eliminated residual tenderness disappeared but could be easily reproduced by purposeful feeding. For example, one patient who had a cholecystectomy after suffering with violent attacks of pain in the right upper quadrant for years has a recurrence of the same pain after the ingestion of apple or beef.

The first case history demonstrates the multiple type of allergy while the second case is one of single gastro-intestinal allergy.

REPORT OF CASES

Case 1. A married woman, aged 62, complained of gas and bloating and attacks of severe epigastric pain referred to the right shoulder and followed by diarrhea, for a period of ten or twelve years' duration. She had been inclined to constipation for a number of years and had been troubled badly with hives for two years. She had suffered greatly with nasal infections and after a tonsillectomy was operated on twice for sinus disease. During the period of her illness she had submitted to three abdominal operations because of pain but had experienced no permanent relief. Shortly before presenting herself for examination an hemorrhoidectomy had been performed. During her convalescence veronal as a sedative had been given for nervousness; the patient stated that her discomfort had never been so great as during that period. There was no family history of allergy and none of her children had ever suffered any illnesses suggestive of allergy.

Physical examination showed a well nourished woman of sthenic habitus, weighing 63.5 kilograms, with dry hair and skin. Dermographia was marked. The eye brows were scanty. Pupils reacted promptly to light and on accommodation. The nostrils were excessively moist and the mucosa was grayish in color. The posterior pharyngeal wall was red and injected. The thyroid gland was small and barely palpable. There were three postoperative abdominal scars and marked tenderness in the gallbladder region and in the right and left lower quadrants of the abdomen. Proctoscopic examination revealed a spastic sphincter and a reddened rectal mucosa with a marked excess of mucus.

The roentgenological examination showed a marked colonic hypomotility. Her blood study showed an hemoglobin of 70 per cent and no eosinophils were observed in the stained blood smear.

Marked reactions to wheat, eggs, cheese, pork and tomato were obtained and the patient experienced relief from abdominal pain for the first time in ten years when these foods were excluded from the diet. The urticaria was better but as the patient was irritable and nervous sodium barbital was given in two grain doses three times daily. The urticaria immediately became worse than ever but improved as soon as the sodium barbital was discontinued. In order to discover the additional allergens responsible for the urticaria the patient was put on a food diary and oatmeal, lettuce, strawberries and radishes were restricted. With these additional restrictions the urticaria disappeared and there was also no more trouble with constipation. If the patient broke her diet and developed hives she noted that she was also constipated during that period. It was found later that her nasal obstruction and copious watery discharge were due to swelling of the nasal mucous membrane caused by sheep's wool and pepper. This patient is now perfectly comfortable and happy after being regarded as a neurotic for years.

Case 2. A married woman, aged 55, complained of indigestion of thirty-five years' duration which had been increasing in severity. The indigestion was characterized by marked distention and bloating with no intervals of freedom from discomfort. Exercise, massage, and belching gave some relief but there was always a sense of distention and pressure in the lower abdomen on awakening which got worse as the day progressed. There had been no severe attacks of abdominal pain and there had never been any jaundice. The patient did not have urticaria but had noticed some morning sneezing and slight dyspnea which she attributed to distention. The diet had been a regular unchosen one as nothing had ever seemed to disagree with her. The bowels had always been regular without the use of catharsis. There was no family history of allergy and neither of her children had ever exhibited signs of allergy.

Physical examination revealed a pale but well nourished woman of sthenic habitus, weighing 67.2 kilograms. The skin was dry and smooth. The pupils reacted normally to light and on accommodation, but the conjunctivae were pale. The nostrils were clear and the mucosa was a normal color. The throat and posterior pharyngeal wall were normal. The thyroid gland was not palpable. The lungs were normal and the heart sounds though regular and clear were distant. The blood pressure was 95/70. The abdomen was distended with gas and the liver was slightly enlarged and tender. Proctoscopic examination showed a normal sphincter tone but marked injection of the anal canal. The rectal mucosa was reddened and showed an excess of mucus.

The roentgenological study of the gastro-intestinal tract showed a colonic hypomotility with a spastic colon and a pathological cholecystogram.

The electrocardiogram was normal except for notched P waves in leads I and II, which were normal in a tracing taken later.

The urinalysis was normal and the fractional gastric analysis resulted in a normal acidity curve. The hemoglobin determination was 65 per cent but the remaining blood study was essentially normal. No eosinophils were found in the stained smear. Cutaneous tests were done because it was felt that the obvious hypothyroidism, anemia and pathologi-

cal cholecystogram did not sufficiently explain the symptomatology, and also because of the history of increasing distention during the day. Wheat and eggs were eliminated from the diet at once and immediately the patient began to improve. After a few days the patient had a massage and her masseuse noted that there was much less distention than during any previous treatment. Wheat, beef, eggs, barley, beets, lamb, lettuce and paprika gave marked reactions while sea foods, coffee and squash reacted to a lesser degree. It may be possible that the allergic phase of the patient at the time of examination was responsible for the pathological cholecystogram and the enlarged tender liver as a limited diet has given complete relief. Her symptoms however can be easily reproduced by purposeful feeding of the allergens.

Four patients in this series were advised to be operated on before the actual cause of their trouble was correctly diagnosed. Two patients had cholecystectomies and two had appendectomies after a complete clinical study and medical treatment. The tissue in each instance was studied pathologically and evidence of chronic inflammation was easily demonstrated. Marked infiltration by lymphocytes was found as well as the presence of numerous eosinophils throughout the tissue. It is well known however that eosinophilic infiltration is common in any tissue subjected to chronic inflammation. It is also well known that an operative procedure will relieve an allergic of symptoms for a short period of time. This was the experience of the patients mentioned above and after the same symptoms recurred they were found to be allergic and treated accordingly.

It is generally accepted that cutaneous tests are notoriously inaccurate in about 50 per cent of all cases but positive reactions do indicate a sensitization and offer a starting point in dietary treatment. It is justifiable to restrict the most actively reacting proteins and observe. Frequently, the relief obtained is remarkable. When only slight or partial improvement is noted a food diary is of great help. In this way foods may be added or eliminated until all incompatible foods are restricted and the patient finds relief. Elimination diets such as suggested by Rowe are valuable in those allergies whose skin does not respond to protein tests but they have the disadvantage of consuming much time. If hospitalization is feasible, it is preferable when the patient's condition permits to restrict all intake except glucose and water for forty-eight hours and begin with one simple food at a time. As the usual reacting proteins are the more common ones of daily use it is a good practice to start with such foods as lamb, spinach, carrots, turnips, or stewed fruits and then add or subtract from the diet as indicated by the patient's reaction. In

this way a complete diet may be constructed in a few days' time.

Strict dieting is an arduous procedure, therefore the treatment is most successfully carried out if the patient is rested and carefully avoids fatigue. Mental depression, nervousness and exhaustion gradually disappear when the constant irritating discomforts are relieved. However, the necessity for an adequate intake of vitamins should not be overlooked while the strict dietary régime is in effect. Every effort should be made to keep the undernourished patient from losing weight. For this reason an occasional change of climate is of great benefit as an allergic who cannot take wheat, eggs, or milk in one part of the country can do so with impunity in another. Thyroid therapy is employed with benefit when symptoms of hypothyroidism are marked. Calcium therapy, recommended by many writers, proved to be of less aid than sunshine in this series. Attempts at desensitization are made by giving very small amounts of allergens at several days' intervals and gradually increasing the amount given. Treatment other than strict avoidance has been rather unsatisfactory, but even so the recognition of a gastro-intestinal allergy will save much needless invalidism.

908 Beaumont Medical Building.

EVEN BABY NEEDS HIS DAILY DOZEN

Until an infant is old enough to crawl and walk about, his exercise consists only of that given him by his mother or nurse. It is through the baby's developmental activities that his muscles grow strong and his movements become coordinated, writes Charlotte Walls in *Hygeia*.

Lift baby, carry him and lay him down differently each time to prevent the bony framework from having to adapt itself continuously to the same position or from sagging to one side, is Miss Walls' advice.

Encourage the child to creep on the hands and knees for a long time and do not assist him in walking. Rather let him wait until his muscles have developed sufficiently to raise himself. A few falls give him added exercise and the muscles of the back and legs are strengthened as he gets up each time.

Animal mothers begin early to train their young. They push their babies over and the legs of the little ones grow stronger from their efforts to get up. It is far better to train a baby early in the habits of good posture than to try to correct the defects later, says Miss Walls.

DEFECTS IN SPEECH

Speech defects occurring in children may be caused by disorders in the emotional life, says Calvin T. Ryan in a *Hygeia* article. Among the causes he lists: lack of understanding of parents, inconsistency of treatment, laxity in discipline, dependence, dominance on the part of the parent, a too closely planned schedule, influence of a too dynamic personality, overanxiety, quarreling, partiality, irregularity in the home, and unwise discipline.

ONE-STAGE VERSUS TWO-STAGE SUPRAPUBIC PROSTATECTOMY*¹

D. K. ROSE, M.D.

ST. LOUIS

Cavillard is credited with having performed the first prostatectomy about 1630. From that time only sporadic operations of this type are reported until about 1876 when Bottini, of Pavia,¹ focused attention upon the disease with his electrocautery operation which was recommended by Freudenburg and Bierhoff² as late as 1897. Bottini's operation is reported in *Lancet* in 1885 and two years later the same journal gave an account of the proceedings of the Clinical Society of London in which McGill³ reported three successful suprapubic prostatectomies. In 1888 Belfield⁴ in America recommended the same operation and cited two cases. By 1894 Zuckerkandl,⁵ followed by Nicoll⁶ in London and by Albarran⁹ in France, was advocating total extirpation of the prostate perineally and in 1900 P. Johnson Freyer⁷ offered a "New Method of Performing Perineal Prostatectomy." Later he advanced the suprapubic operation. In America Syms¹⁰ and Fuller⁸ in 1901 and Hugh H. Young¹¹ in 1903 strongly recommended perineal prostatectomy, which Young markedly improved. From such early and hazardous beginnings prostatectomy has developed until today the problem is not a choice between palliative and operative methods of treatment but between types of operations; that is, which type is best calculated to see a particular patient through to permanent recovery in the shortest possible time with a minimum risk.

The choice between a complete or one-stage and a two-stage suprapubic prostatectomy is determined by the analysis of the following steps: (1) History of the progress of the disease with analysis of symptoms to determine the bladder wall changes which may have been brought about by the particular type of prostatic obstruction. (2) General physical examination. (3) Genito-urinary examination, including rectal, cystoscopic, urinary and blood chemistry examinations.

Basic bladder wall changes are of two types: (a) decompensation by an obstruction which has been in control throughout the course of the disease, and (b) one in which the bladder wall has compensated for the increasing obstruction. It is my opinion that these two types are all important in considering the effect

* Read before the St. Louis Medical Society, September 22, 1931.

1. From the Department of Surgery, Washington University Medical School, and Barnes Hospital.

of urinary blockage from the toxic and renal standpoint. In the former (decompensation) type, the actual obstructing mass is apt to be chiefly urethral, and in the latter (compensation) type, at or above the internal sphincter. If the obstruction is of rapid development there is less hypertrophy of the bladder wall. Both types may go through the residual urine stage in some degree which means that the bladder wall can no longer complete its duty of emptying itself. If a cystitis occurs in the compensated bladder wall type the general as well as the local effects are much more disastrous than if this had occurred in a weakened or decompensated wall.

Symptoms of the first type are, hesitancy in starting the stream and weak flow with imperfect stopping. In a strong bladder wall the forceful contraction leads to a spread of infection, bacteriemia and often septicemia, and lymphatic-borne or ascending pyelitis. In the second type there may be frequency, urgency, incontinence of urgency, terminal pain and hematuria and, in association with such symptoms, the residual urine may disappear or decrease for a short time.

Application of this brief analysis means that a retention catheter will be badly borne by an unusually hyperplastic bladder wall which will tend to force it out, block it by spasm about the eye and cause trauma to the bladder mucosa from the tip of the catheter. If the individual has complete retention of a large amount the bladder wall will be stretched and its expulsive force weakened temporarily or more or less permanently, dependent upon the duration and degree of the infection and retention. Also, a long continued weight of residual urine causes some physiological block anesthesia of the nerve terminals within the bladder. If urinary retention has been of short duration, the stretching and release of the smooth muscle upon catheterization constitutes a marked degree of stimulation. In addition, the bladder thus collapsed suddenly is thickened so that a maintained, forceful contraction will traumatize the mucosa and predispose to a more acute infection, as mentioned above. If there is a history that the catheter has been successful over a long period we feel that the bladder wall is decompensated and that catheterization or a retention catheter, depending upon the degree of obstruction, is not dangerous. If, however, following catheterization, there is marked terminal pain and the residual urine diminishes or disappears it is suggestive of the expulsive force being almost equal to the resisting power of the obstructing mass and from the standpoint of bladder function alone, a one-stage would be indicated unless the blood

chemistry and general physical signs demand a two-stage.^{13, 14}

I believe that sudden obstruction is due to acute decompensation of the bladder wall rather than to increase in the size of the mass either by growth or secondary to infection. This bladder wall is undoubtedly the connecting link, not only between the prostate and the kidneys but between the prostate and the general health of the patient. The enormous influence of the infection is sufficient to determine the course of surgery, but this same altered bladder function must be considered from the standpoint of kidney function. We have long been taught to decompress an over-distended bladder gradually. Sudden release of intracystic pressure may do harm from the standpoint of infection but from that of kidney functional change it is, in my opinion, not harmful to empty it once, but it is exceedingly dangerous to empty a hypertrophic bladder repeatedly. We can catheterize the flaccid or decompensated tabetic bladder with impunity providing it does not compensate with catheterization. By this argument, the single complete emptying of a one-stage is not in itself dangerous. Again, we have been taught not to cystotomize an uninfected bladder. I feel that this is not dangerous in any degree if the suprapubic drainage is perfect but this means a large tube which does not continuously scarify the bladder wall and which *never* blocks. To this latter end, it is best not to have the tube and bottle bedside drainage for four or five days as the tube frequently becomes blocked in some manner.

A most important point in choosing the type of operation lies in avoiding undue trauma in the presence of infection. This point is brought out by Thomas, Exley and O'Brien.¹² Briefly, its clinical application is, not to do a one-stage in the presence of marked urethritis or cystitis, the former in particular when due to a retention catheter. If a retention catheter has been used the two-stage operation is indicated until, by bland irrigation, urinary antisepsis, etc., the infection has been cleared up. With this idea in mind how wrong it seems to pull out a pus encrusted urethral catheter and enucleate a prostate in the presence of an edematous, markedly infected urethra and bladder. Of course septic emboli occur and these authors feel that this accounts for postprostatectomy pneumonia in a large percentage of cases.

The general physical examination is very important in determining the type of operation but by no means all important. Age is not a deciding factor providing there is no cardiovascular, chronic renal, metabolic or other serious associated disease. If any of these ad-

verse conditions are present the two-stage must be favorably considered.

The genito-urinary examination undoubtedly begins with the urine and the amount of residual present. The routine examination of a single voided specimen should be for albumin, sugar, a search for casts and red blood cells, mucus, pus and organisms, and not of specific gravity or alkaline or acid reaction excepting as the latter may point to the associated infection. For example, in alkaline urine a motile bacillus is more apt to belong to the *Proteus* than to the colon group. Methylene blue stain differentiates between pus and organisms (with the exception of the unknown pyogenic organisms) which come from the internal sphincter outward and those which come from the internal sphincter upward. In the first instance the organisms are in the mucosa, submucosa and possibly deeper and, while some are found in the desquamating epithelial cells and even in clumps, short practice will enable one to differentiate this picture from organisms which are using the urine as a culture medium and are more or less evenly scattered throughout the stained specimen. While clumps of organisms are present in the latter, their relation to the scattered organisms present is an entirely different picture from that presented by the urethral organisms. In the second case they may grow in the bladder urine in connection with a residual urine or there may be no residual and so point to a pyelonephritis, particularly if they persist. Pus is to organisms as smoke is to fire. It is the organisms that are dangerous and a laboratory report of "pus present" is inadequate. "Clumped pus" is of little clinical significance. In every urine examination, the catheterized female and the second glass freshly voided male specimen should be incubated in the patient's bladder for three hours if possible before staining. Many "clear" urines treated in this way will be found to be infected.

Phenolsulphonephthalein is a very valuable index to the kidney condition and associated with the blood nonprotein nitrogen affords, from a practical standpoint, sufficient information for most clinical purposes. I prefer an intramuscular phenolsulphonephthalein test with an appearance time of ten minutes and a total two-hour function after appearance of 40 to 60 per cent approximating normal. A blood nonprotein nitrogen below 35 or possibly rarely 40 mgm. per 100 c.c. of blood is considered normal. The clinical application of both these figures depends upon their constancy. A slight unfavorable change which cannot be shaken may prove less desirable than a greater change which corrects. If this cor-

rection is slow, a two-stage operation is nearly always indicated.

The rectal sphincter is innervated from the second, third and fourth sacral segment of the spinal cord and the internal bladder sphincter from the first, second and third sacral segments. Therefore, marked relaxation of the rectal sphincter in the absence of marked senility or general debility points to relaxation of the internal bladder sphincter. The prostatic examination lies chiefly in differentiating the markedly fibrous type from the adenomatous or one approaching the pure adenomatous type. The latter enucleates easily no matter how long the suprapubic drainage has been continued. The former, in any case, becomes more and more difficult of enucleation after long drainage. From this standpoint, therefore, the fibrous adherent prostate favors a one-stage operation as difficult enucleation of an adherent mass causes more shock by long trauma and hemorrhage than does a cystostomy with quickly enucleated gland.

The cystoscopic and urethroscopic pictures do not definitely determine obstruction. In other words, many an unobstructed bladder shows prostatic lobe enlargement on visualization which is not unlike the picture seen in obstructed cases. It is, of course, a great help and knowing symptoms one can readily find the point of obstruction and also determine the presence of stone or diverticulum either of which almost necessitates a two-stage operation. It further helps in the differentiation of a neurogenic bladder, especially if a local anesthetic has not been used. Besides this characteristic neurogenic relaxation of the posterior urethra there may be funneling of the prostatic urethra, produced by a hypertrophic wall in full contraction forcibly distending it with fluid. Consequently, an apparently relaxed urethra does not always mean a neurogenic bladder. Coarse trabeculae indicate a hypertrophic bladder wall in strong contraction. These trabeculae are strong muscle bundles which are brought out by the intracystic pressure ballooning the weaker bladder wall away from them.

SUMMARY

The perfect one-stage is offered by a man, not senile, whose general health is good and who by having a compensated bladder wall, with its advantages and disadvantages as outlined, can await examination and laboratory determination without a retention urethral catheter. The laboratory findings should be in the neighborhood of normal and the infection should be of superficial type and mild degree. With such favorable findings the postoperative

absorptive surface of the prostatic capsule added to that of the cystostomy wound is not important providing drainage is free and continues without a break.

There is no perfect two-stage. The type requiring one would be an individual who, in the first place, needs immediate relief of retention and who, in the absence of known blood chemistry and kidney function, must be catheterized often or bear a retention catheter. The necessarily large residual urine pointing to a decompensated bladder wall suggests that the catheter will be well borne. After it has been introduced and eventually the time for operation arrives, it will have produced an acute or subacute fresh urethral and possibly a bladder infection which, if traumatized by the complete one-stage will tend to produce embolic infection and predispose to pneumonia. In this type, a cystogram is frequently preferable to a cystoscopic and bilateral vasectomy at the time of cystogram or cystoscopic is indicated. This prostate is often of the adenomatous type with marked infection which enucleates almost as easily after prolonged suprapubic drainage as if it had been removed at the time of cystostomy.

CONCLUSION

The tendency in America is to delay operation until in a large percentage of cases a two-stage is indicated, which gives us a higher mortality rate, not due to the operation but to the type of risk, than if it were done earlier in the disease by the one-stage or complete method.

316 Beaumont Medical Building.

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WATCH THE NEEDLE

Don't fear a hypodermic needle because you think it will break in the body. Needle fragments are sometimes broken in the arm as a result of hypodermic injections, but the everyday sewing needle is the worst offender in accidents of this kind, declares Dr. Victor W. Eisenstein in *Hygeia, the Health Magazine*. Use care when you are sewing and have a regular place to keep the needle.

TRACHOMA IN MISSOURI *

C. E. RICE, M.D., Passed Assistant Surgeon
U. S. P. H. S.

AND

J. E. SMITH, M.D., Acting Assistant Surgeon
U. S. P. H. S.

ROLLA, MO.

Trachoma work by the U. S. Public Health Service in cooperation with the Missouri State Board of Health was started in Missouri in 1923, first by a series of survey clinics and then by the opening of a hospital at Rolla. At this hospital the severe and complicated cases of trachoma have been hospitalized. The holding of field clinics has been continued throughout southern Missouri, especially through the spring, summer and fall months. It has been found expedient to select a center and hold weekly clinics at such points throughout the summer. Field nurses have been utilized to work in the territory surrounding the chosen center. At times, operative clinics have been held in such a center. At these operative clinics patients have been held under observation for approximately seven days. It has been found by experience that operating on these trachoma cases and allowing them to return home at once without further treatment has at times not given the desired results.

After Surgeon Paul D. Mossman assumed charge of the trachoma prevention work of the Public Health Service in 1924, he soon made a very worth while change in the type of clinic record on the trachoma cases. An illustration front and back, of such a form is shown (charts 1 and 2).

This report is partly a study of the records of trachoma patients found in Missouri from 1923 to 1930, and partly a study of the relationship between trachoma and trachoma blindness as it exists in Missouri. A great majority of these records have been made on the illustrated form. Some of the records are incomplete, especially those made in the heat of a field clinic where two hundred people may have been examined by one physician with the help of one or two nurses in eight hours' time.

In the period mentioned, 3893 individuals with trachoma have been seen in Missouri by our workers. Of this grand total, 3691 were found south of the Missouri River and only 202 cases north of the river. Of the 3893 cases seen, 1148 have been hospitalized one or more times at the hospital in Rolla. It must be understood that the grand total represents active and inactive cases as many of the indi-

* Read at the 74th Annual Meeting of the Missouri State Medical Association, Joplin, May 11-14, 1931.

TRACHOMA HOSPITAL CLINICAL RECORD

Trachoma case record Rolla, Mo. Hospital Date Dec. 1, 1929
 Name Edna Age 20 Sex F M S W W Sep.
 Name of householder Odey Kinship Wife
 Address P. O. Chesterfield, R. F. D. 1, County St. Louis, State Mo.
 Location of residence 6 miles from Chesterfield
 Birthplace Shannon County, Mo. How long in county 5 months
 Occupation Housewife (Country and alias)
 Family history of Trachoma Yes (Owner) (Renter)

ROSTER OF HOUSEHOLD

NAME	AGE	SEX	KINSHIP	TRACHOMA (If not, how long)
<u>Odey</u>	<u>45</u>	<u>M</u>	<u>husband</u>	<u>Yes, 2 years.</u>
<u>Eugene</u>	<u>2</u>	<u>M</u>	<u>son</u>	<u>Yes, 2 weeks.</u>

TRACHOMA IN RELATIVES OR ASSOCIATES NOT IN HOUSEHOLD

NAME	AGE	SEX	EXTENT OF ASSOCIATION
<u>Viola</u>	<u>15</u>	<u>F</u>	<u>cousin, lived in same home</u>
<u>Tommy</u>	<u>11</u>	<u>M</u>	<u>"</u>

Date of admission Dec. 1, 1929 History of onset 2 Yes
 Previous treatment by Dr. L. Green, at Independence, Mo.
Dr. Dyer in St. Louis
 Condition of lids: Right Granulations with hypertrophy
 Left Same
 Scars of cornea Multiple Active ulcer No
 Pannus General Entropion No
 Trichiasis No (Degree and location) Photophobia No
 Discharge Yes, moderate Ophthalmoscopic examination No
 Wassermann Neg Vision R E 10/20 L E 20/20
 General condition Good Height 63 1/2 in. 1 Weight 130 1/2 lb.
 Appearance

CHART 1

viduals when seen in clinics are apparently arrested cases. From experience it has been found, however, that many of these arrested or "cured" cases may flare up again under improper conditions, such as in dusty occupations.

The age grouping of all the cases seen and of those hospitalized is here shown:

	Under 10	10-20	20-30	30-40	40-50	Over 50
Total cases seen	349	722	470	578	617	1044
Hospitalized	116	301	186	158	148	225

(113 not classified in total number)
(14 not classified in hospital list)

It will be seen that the largest group hospitalized has been the group from 10 to 20 years of age. Approximately 30 per cent of the cases seen have been hospitalized. However, not all those needing hospitalization have come in for such. There is well illustrated the fact that where real trachoma exists its presence should be manifest in the advanced decades of life.

Of the trachoma cases seen in Missouri, 65 per cent have been males. They have outnumbered the females almost 2 to 1. This may be partly explained by the woman being more timid about submitting to examination. Even after taking this explanation into account, the preponderance of males may be an epidemiological factor of some importance.

Next is shown the number of individuals hospitalized only once, the number hospitalized twice, etc.:

One Time	Two Times	Three Times	Four Times	Five Times	Six Times	Seven Times	Eight Times	Ten Times
889	177	42	18	10	4	4	2	2

Nose Congested Throat Mucous membrane congested
 Cervical glands Enlarged Teeth 2 carious
 Heart Normal Rhythm regular Murmurs No
 Pulse rate Standing 82 Sitting 70 Lungs Clear
 Treatment: Operation Grattage on Dec. 13, 1929
 Anesthetic Novocaine 1%
 After treatment Irrigation + silver 20%
2 1/2% strabine on Novocaine 1% Irrigation + silver 20%
daily

Discharged March 13, 1930 Vision 20/50 O.U.

Readmitted Oct. 2, 1930 Vision 2/200 1/200 Rgt. 116%
Oct. 4, 1930 Grattage on Mucous membrane graft from
each eye into lids of monkey.

Oct. 22, 30 Patient seen by Dr. Knudsen of St. Louis & case
 discussed. Present treatment approved.
 Discharged Dec. 2, 1930 Vision 20/20 O.U. Rgt. 121 lft.
Rt. 4 2% for home use.
lids + general condition much improved.

CHART 2

It will be seen that 77 per cent have been hospitalized only once, 15 per cent have been hospitalized two times and only 7.1 per cent three or more times.

Now is shown the age grouping of those hospitalized one or two times:

Under 10	10-20	20-30	30-40	40-50	Over 50
107	283	162	150	135	215

Next the age grouping of those hospitalized three or more times:

Under 10	10-20	20-30	30-40	40-50	Over 50
9	18	24	8	13	10

These frequent repeaters nearly all show marked corneal trachoma, even heavy active pannus in the presence of an inactive lid. They have frequently occurring ulcers and some have an apparently trachomatous keratitis.

There were 2208 operations performed as follows:

Entropion	699
Canthoplasty	219
Grattage	1202 (some of these more than once)
Others	88

Under "Others" occurred only a few tarsectomies. It is our observation that more can be obtained with a thoroughly performed canthoplasty than with a tarsectomy.

The average number of days in the hospital of those in once was 27.6 days; of those in twice 56.6 days; of those in three times 161 days for the three times.

There is a small group of five patients that have proved very refractory to treatment:

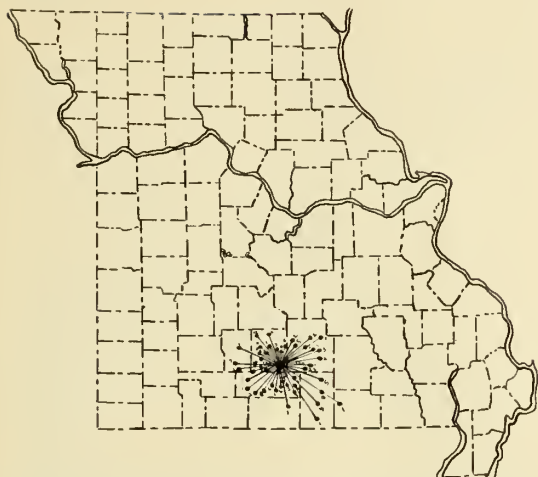


Fig. 1. Four hundred and one cases of trachoma came into this central field clinic from outlying points for treatment at weekly intervals during the summer and fall of 1930. During the summer and fall of 1931 the field clinic will be located at another point.

V. C., aged 12, hospitalized 13 months.
L. H., aged 57, treated continuously at another clinic and here 27 months.
B. B., aged 39, treated here 13 months.
E. B., aged 20, treated here 18 months.
R. B., aged 30, treated here 18 months.

The age grouping of the grattage cases and entropion cases is shown as follows:

	Under 10	10-20	20-30	30-40	40-50	Over 50
Grattages	219	424	156	107	68	85
Entropion	3	19	71	136	163	261

Now follows a very important summary showing the number of individuals seen with vision of 20/100 or less in both eyes from trachoma. This total number was 677, or 17 per cent of the number of trachoma cases seen. The age grouping of this number is:

Under 10	10-20	20-30	30-40	40-50	Over 50
12	70	71	103	128	289

There were 493 individuals seen with visions of 20/200 or less in both eyes from trachoma. They grouped as follows:

Under 10	10-20	20-30	30-40	40-50	Over 50
3	44	53	65	91	232

This shows 12.5 per cent of all trachoma cases seen so far in Missouri as having 20/200 vision or worse, and it also shows that trachoma can cause considerable vision loss in the early years of life. The age grouping shows the biggest jump of blindness occurring from the first to the second decade of life.

Of 1154 unselected records carefully studied, pannus was observed in one or both eyes at the first examination in 88 per cent. The age grouping of the cases showing pannus follows:

Under 10	10-20	20-30	30-40	40-50	Over 50
47	155	130	165	181	344

The records show 12 cases of unilateral trachomatous involvement, summarized as follows:

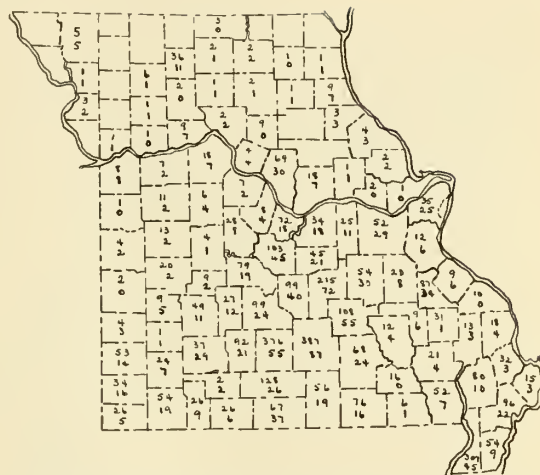


Fig. 2. Missouri trachoma cases seen and hospitalized, 1923 to September, 1930. Number of counties represented, 100. Total number of trachoma cases seen, 3893. Total number of cases hospitalized, 1148. Upper figures show total number of trachoma cases seen. Lower figures represent total number of cases hospitalized.

Sex	Age	Duration	Eye Involved	Operation or Treatment	Right Vision	Left Vision
Female	20	3 years	Right	4 grattages	20/200	20/20
Male	20	7 years	Left	1 grattage	20/20	20/100
Female	22	6 years	Left	1 grattage	20/20	Fingers 12"
Male	9	2 years	Right	2 grattages	20/50	20/20
Male	42	7 years	Left	Thermaphore to ulcer	20/30	Shadows
Male	24	1 year	Right	1 grattage	8/200	20/20
Male	29	5 years	Left	1 grattage	20/20	4/200
Male	30	16 years	Left	Entropion, left eye	20/20	20/200
Male	20	?	Right	1 grattage	20/100	20/20
Male	16	5 years	Right	1 grattage	5/100	20/20
Male	30	4 years	Left	1 grattage	20/20	20/100
Male	54	3 years	Right	2 grattages	Shadows	20/30

A further study was made of the records from three contiguous counties in Southern Missouri, namely: Phelps, Wright and Texas. There has been more intensive field work by trachoma field nurses in these three counties than in any other three counties in the State. We have reason to believe, therefore, that we have come nearer to locating all the cases of trachoma in these three counties than in any other county or counties in the State. The number of cases of trachoma seen in Phelps is 224, in Texas 392, in Wright 389, or a total of 1005 cases in a population of 51,000. One fourth of all the trachoma cases seen by us so far in Missouri has been seen in these three counties. In Phelps County there are 8 trachoma blind on the pension rolls, in Texas 9 and in Wright 22.

In Phelps County the percentage of trachoma blind pensioners to the approximately known trachoma cases is 3.7 per cent. In Texas County this percentage is 2.3 and in Wright County 5.8. Taking the average of these three figures as being somewhat nearly correct, we have 3.9 as the per cent of trachoma blind to the total number of trachoma cases. There were 690 cases of trachoma blind pensioners on the State pension roll Sept. 1, 1930. If this

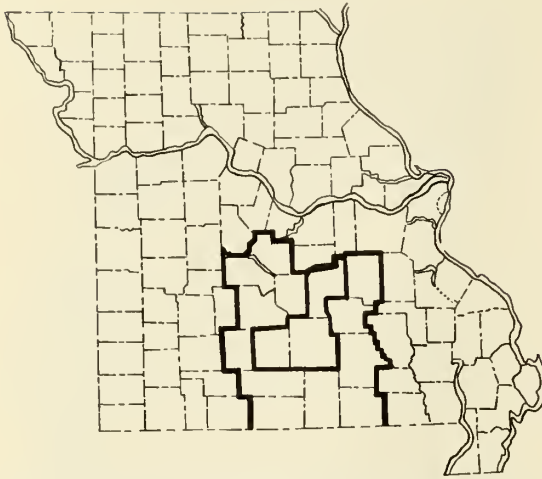


Fig. 3. In the 15 counties outlined in heavy border 2009 cases of trachoma have been seen, or 52 per cent of the total. Within the three counties outlined in the center of this group 1005 cases of trachoma have been seen in a population of 51,000. It is within these last three counties that the most intensive trachoma work has been done.

represents 3.9 per cent of all the trachoma cases in Missouri, then we must face the possibility that there are 17,000 cases of trachoma in Missouri and that we have seen approximately 21 per cent of this number. Looked at in another way one may say that there is one trachoma blind individual for each 26 cases of trachoma, or for each trachoma blind individual there should be 26 trachoma cases.

Considering that there are 17,000 cases of trachoma in Missouri now and if the proportion of badly damaged corneas holds at 12.5 per cent, then there are 2125 individuals approaching partial blindness at the present time due to trachoma. Of the 690 trachoma blind pensioners, 137 are north of the Missouri River. Using the same proportion again, this represents 3.9 per cent of the total trachoma north of the river, making 3510 cases of trachoma in that territory.

It is realized that there are many human factors that may render this ratio untrustworthy. To mention one—are the ophthalmologists in Missouri, when examining for blind pensions, anywhere nearly uniform in what they call blindness, or in interpreting the instructions they receive from the Commission for the Blind. I may say the figures used represent the revised pension list after many pensioners have been dropped from the rolls.

There will naturally arise the question as to what percentage of trachoma cases are being "cured." As said before, we advise against using the word "cured" as applied to trachoma. "Arrested" is a more apt word and as one has more experience with this disease one comes to see why the word "arrested" should be used.

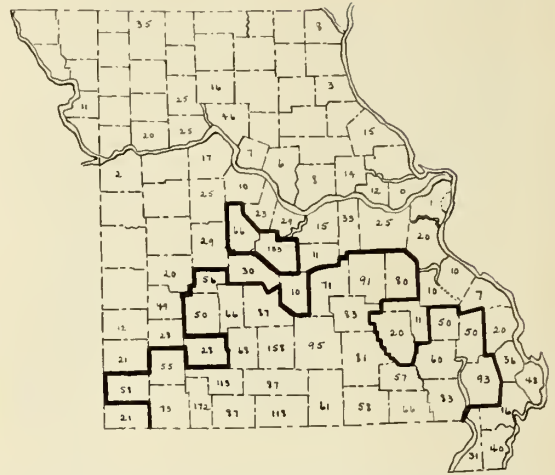


Fig. 4. Above is outlined rather arbitrarily the trachoma belt of Missouri based on the incidence of trachoma blind in the respective counties. Only those counties are included which have an incidence of 50 or more trachoma blind to 100,000 population. The figures represent the trachoma blind incidence.

Many relapses are seen. In the 1148 hospital records here reviewed, it is seen that 8 per cent were hospitalized three or more times. However, we consider the 77 per cent hospitalized only once as a good indicator that the majority of the severe cases are arrested as a result of the first period of hospitalization. Though the word "cured" cannot wisely be used, nevertheless the progress of the lesion toward total or partial blindness is stopped in a big majority of cases, and in many much vision restored, and this stopping we call arresting.

• CONCLUSIONS

1. The incidence of trachoma in Missouri seems much higher in the southern part of the State than in the northern part.
2. One area in southern Missouri of 2506 square miles shows a trachoma incidence rate of almost 20 per 1000.
3. The probable percentage of trachoma blind in Missouri under the present legislative definition of blindness is 3.9 per cent of the total number of trachoma cases.
4. Of 3893 trachoma cases seen, 65 per cent are males.
5. Of 1154 complete records studied 88 per cent showed the presence of pannus involvement of the cornea.
6. There was corneal damage sufficient to bring vision down to 20/200 or worse in both eyes in 12.5 per cent of all cases seen.
7. Of 1148 individuals hospitalized at Rolla, 7.1 per cent have been hospitalized three or more times.
8. It is estimated that there are 17,000 active and inactive cases of trachoma in Missouri at the present time.

Trachoma Hospital.

DISCUSSION

DR. C. P. DYER, St. Louis: I want to endorse everything Dr. Luedde has said about the wonderful work of this trachoma clinic at Rolla. There are two or three points Dr. Rice does not bring out that I think it would be well to consider and look into rather deeply. You notice his summary shows a number of cases south of the Missouri River. That is a challenge to every practicing physician as well as every oculist who is practicing south of the river, especially in the hills of the Ozark country. We need to look at these cases early and then we will not have the serious results the doctor has outlined. The complicated cases are those that the physician is seeing probably more often at the clinic than in the private office. The charity cases that come to the clinics in the city are more severe and they do not reach this clinic, but many complicated cases are being sent there, especially if they have need of long hospitalization. To really help with this work of exterminating trachoma as far as possible in Missouri we need to cooperate very fully with this United States Public Health Service Hospital, and after examining these cases carefully refer as many as possible to this clinic so they can be properly taken care of.

I am sorry that this paper has been read before such a small number, but I think it is incumbent on us to get this article and read it carefully, digest it and carry on the work that can be done through cooperation with this clinic.

WHITE HOUSE CONFERENCE ON CHILD HEALTH AND PROTECTION

[Several Missouri physicians and health workers were invited to participate in the 1931 session of the White House Conference on Child Health and Protection which was called in Washington, D. C., February 19, 20 and 21 by President Hoover. Their contributions have been offered for publication and we believe their value to our members is sufficient to earn a place in THE JOURNAL. The articles follow. Ed.]

GENERAL STATEMENT

BORDEN VEEDER, M.D.

ST. LOUIS

In 1909 the first White House Conference on Child Health was called by President Roosevelt. Ten years later a second conference called by President Wilson was held. In July, 1929, a decade later, President Hoover called the third Conference on Child Health and Protection. The first Conference was concerned with the dependent child; the second was small owing to the nation-wide war activities; the third was by far the most extensive and far-reaching.

The third White House Conference was organized on a broad basis under the general chairmanship of Secretary Wilbur. It is in large part due to the fact that Secretary Wilbur through his medical and educational experience was particularly fitted for the task that the outcome was so successful.

The Conference was divided into four sections, (1) medical service; (2) public health

and administration; (3) education and training, (4) the handicapped.

Sections 2, 3 and 4 met in Washington in November, 1930. Section 1 on medical service met separately in February, 1931. The program this evening is based on the findings and reports of Section 1, medical service. As there is no aspect of child care or life without its health phase, nearly every subcommittee in Sections 2, 3 and 4 included one or more physicians among its personnel. Many of the reports of these sections are of extreme interest to physicians. The subcommittee of Section 2 on "Communicable Diseases" has formulated a report which is the last word on this subject and has outlined the most pressing needs for scientific investigation. The subcommittee of Section 3 on Medical Service in the Schools has formulated a report which should clarify the scope of this field of medical activity and should do much to clear the atmosphere of the false ideas and hokum which permeate this work at the present time.

It is Section 1, medical service, however, that we are discussing this evening. Under the general direction of Dr. S. McHamill the work of this section was divided into three main subdivisions and these in turn into many subcommittees. Committee 1, under the chairmanship of Dr. Kenneth D. Blackfan, professor of pediatrics at Harvard, considered the subject of "Growth and Development." Committee 2 under Dr. Fred L. Adair, professor of obstetrics at Chicago, had as its field "Prenatal and Maternal Care." Committee 3 under the chairmanship of Dr. Philip Van Ingen, pediatrician to the Roosevelt Hospital in New York, was assigned the field of "The Medical Care of the Child."

Some 16 months of work were devoted to finding facts, defining standards and recommending changes and problems for future study where information was lacking or inaccurate. Some 1200 individuals in all were working on one or more of nearly 150 different committees. In calling the Conference, President Hoover stated that it was, (1) "To study the present status of the health and well-being of the children of the United States and its Possessions; (2) to report what was being done; and (3) to recommend what ought to be done and how to do it." You can realize that it was a rather big, broad subject and problem which was tackled.

To my mind, aside from the technical studies, the most important thing was the bringing together of scientists, practicing physicians, teachers, nurses and lay health workers in a common cause. One not taking part in or

attending the Conference can never realize how the various groups tried to understand and meet the various viewpoints. Never before, do I believe, has such a group of anatomists as Scannon, Todd and Streeter, chemists as Bloor and McCallum, physiologists as Carlson and Wiggers, genetists as Davenport, psychologists as Gesell, psychiatrists as Meyer, bacteriologists as Rosenau, to mention but a few among many, met with and found their problems closely related to those of the many practicing physicians, nurses and lay medical workers who participated. If there were time many things could be mentioned.

I will therefore close with an answer to a question frequently asked, viz., now that the Conference is over what is to be done? I can only speak for Section 1. Some 1500 persons attended this meeting from all parts of the United States including workers in the field of child health. Their influence is bound to be reflected. Section 1, however, has established a definite follow-up committee consisting of twenty members. It has already had a two-day meeting this month and plans an existence of at least five years to put into effect the recommendations of the Conference. It intends to use existing organizations and mechanism. I quote from the statement of its functions as adopted at its first meeting:

To advise constructively upon and alternatively to initiate principles of health betterment grounded upon the studies of Section 1 of the White House Conference on Child Health and Protection for inclusion in the working programs of existing organizations active in the promotion of child health.

Its purpose is to invite the formulation and acceptance by all the agencies involved in promotion and protection of the health of the child of a central program embodying the basic principles upon which are founded the physical and mental stamina of the people.

816 Beaumont Medical Building.

IMPROVE GOLF SCORE BY WEARING GLASSES

There is no discrepancy between golf and glasses. Many golfers should wear both glasses and eye-shades to prevent eyestrain resulting from glare, Dr. Henry G. Langworthy tells *Hygeia* readers.

Most golfers would fare better if they wore a head covering to shade the eyes. Playing bare-headed in all kinds of weather and light tends to affect sight and causes strange shots that cannot be attributed to the lack of practice, says Dr. Langworthy.

Tinted lenses subdue excessive light while they do not affect the coloring of the sky and ground or make the eyes dependent on them. The average golfer would improve his game as well as lessen fatigue, irritability and nervousness if he would pay attention to his eyes.

BRIEF ABSTRACT OF THE REPORT OF COMMITTEE ON GROWTH AND DEVELOPMENT

T. C. HEMPELMANN, M.D.

ST. LOUIS

The Committee on Growth and Development, under the chairmanship of Dr. Kenneth D. Blackfan, Professor of Pediatrics at Harvard University, was divided into a number of subcommittees, each one of which collected an enormous amount of data on its own subject and armed with this knowledge, suggested means for the wider dissemination of our present information and for extending it in the future. Even though this brief report be limited to the section on physical growth and development, it can only indicate in a general way a few of the many problems which were raised.

As Dr. Blackfan has pointed out, the terms "growth" and "development" are used advisedly. By growth we mean increase in size; by development, increase in complexity, such as is seen in the formation of the four-chambered heart of the infant from the simple pulsating tube of the embryo. It is possible in many instances to have considerable development with very little growth in size. The term "normal" however, does not mean simply the usual or the average and neither does it necessarily mean the best, although ordinarily it carries a connotation of all of these ideas. Its most important meaning, however, indicates the absence of ill health or incapacity. Hence, there is a wide variation in "normals" and we must recognize that each individual is endowed by his heredity with certain possibilities of growth and development and our practical problem is not so much to determine whether the child conforms to a standard representing the average of a group, but whether or not he realizes to the fullest possible extent his own inborn potentialities. In this connection, we are all familiar with the tables showing the relation between height and weight of children at different age levels, which carry the implication that a child "not up to normal weight" is undernourished. The work of this committee has shown that deviations from these standards very frequently depend on difference in the skeletal proportions of the child and that the underweight child very often is simply the child who has a slender chest or narrow hips.

The studies of the anatomist, the physiologist, the roentgenologist and pediatrician supplement each other in many ways and a closer cooperation between all is certain to further our knowledge of the growth and development

of the child, but a great opportunity will be wasted unless medical schools recognize to the full the importance of study of the normal child. One line of approach to these problems has only recently been recognized for its true worth, that is, the type of study which follows the same individual over a long period of time, making systematic tests and measurements at regular intervals and gathering all kinds of relevant information about him. Observations made on large groups of individuals, even when analyzed by statistical methods, tell us only of general trends. Other observations which have recently been completed indicate that the acceleration of growth at puberty is usually much more sudden than the customary group methods have led us to believe. The suddenness of the spurt of growth was masked by the fact that it does not occur at the same age in different individuals, so that the composite curve for the whole group shows only a gradual rise through a period of years. Our knowledge of the period of adolescence is as yet very defective and the relationship of the various systems of organs is but poorly understood, but what knowledge we do possess has shown clearly that it is wrong to consider children practically mature and to treat them as adults, merely because of their relatively large size at this age.

The extent and nature of the influence which social, economic and cultural factors may exert on growth and development are very important questions. The vagueness of the factors with which we are dealing makes solutions of the problems difficult, and yet the influence of economic factors on growth for instance may be self-evident, as when growth is retarded by practical starvation.

Even though our knowledge of nutrition and the necessary components of a diet is extensive and we can specify broadly the needs of an individual in terms of calories, protein, fat, carbohydrates, water, minerals and vitamins, there is still much to be learned. The same foods are not always of the same composition, and we are just beginning to appreciate how variation in the soil can bring changes in the nutritive value of the crop. The iodine and the nitrogen content, the calcium, the potassium and the phosphorus all cause variations in the plants. It is important therefore that the child's dietary contain a liberal quantity of milk and of eggs with an abundance of fruits and green vegetables as a safeguard against a possible inadequacy in any of the known essentials and a means of promoting the best health and resistance to disease.

But, as one of the speakers, Dr. A. J. Carlson, professor of Physiology at the University

of Chicago, said, "Sometimes we are inclined to overemphasize our ignorance. After all, we do know something." If the White House Conference were to accomplish nothing more than the wider dissemination of the things that we *do* know, giving no impetus to the many attempts even now under way to further our knowledge, much will have been achieved for the welfare of the children.

203 Beaumont Medical Building.

MENTAL GROWTH AND DEVELOPMENT

PAUL E. KUBITSCHKEK, M.D.

ST. LOUIS

In arranging an abstract of the reports of Drs. Gesell, Thom and Cruthers to the White House Conference on Child Health and Protection, Dr. Gesell's material is taken first as it is concerned with mental development of the infant.

Dr. Gesell emphasizes the desirability of picturing the mind as something real and almost as tangible as the body of the infant, as something that has structure, direction, growth capacity and stability. The working of the mind manifests itself in behavior and, according to him, the behavior of the very small infant proves to be orderly, to have pattern and the rate at which certain behavior patterns develop expresses the rate of development of the mind.

Dr. Thom, speaking on the mental status of the child, states that development proceeds by successive stages, the first forty weeks being concerned with organization of patterns of perception, prehension and manipulation. During later infancy, up to the age of two years, locomotion and language development predominates. During early childhood, from two to six years, fundamental acquisitions in every field of behavior, motor, language, adaptive and social take place. Dr. Thom defined mental growth as a development of the entire psychic life of the child; the intellectual growth as the ability to see meaning and to think in terms of abstractions. The superior child was briefly discussed and the opinion expressed that the child of superior mentality usually possesses also superior physical endowment and might be expected to maintain this superiority in adult life. Failure to do so is usually caused either by physical injury or more frequently by faulty emotional adjustment. Superiority in special abilities, such as music or computation, are not always associated with general superior mentality and unless superiority of special abilities is accom-

panied by superior mentality such individuals usually fall short of great achievement.

The child of inferior mental development was discussed at greater length and the difficulty of accurately predicting the future level of development from the results of intelligence tests in childhood was emphasized. The rate of development is far from uniform, particularly in the border zone group and any one of three general types of development may occur, viz., (1) development may slow up rapidly, cease early and ultimate feeble-mindedness result; (2) development though slow may continue far into adolescence and reach a dull normal state; (3) development may continue uniformly at the border zone level or if approximate normality in some respects is reached, subnormality in other spheres may remain. The value of intelligence tests was emphasized but with a strong note of caution in the interpretation of such tests. The tests were considered as methods of sampling the various intellectual processes and estimating intelligence as a whole on the basis of these small samplings. The limitations of such a measure must be appreciated and, because of the danger and unhappy consequences of misinterpretation and unwise prediction, it was felt that even simple tests should be administered and interpreted only by persons with specialized academic training and considerable clinical experience. Language was considered as the most complex of motor skills and it was felt that a high degree of correlation exists between the rate of development of understanding and use of language and intellectual capacity.

In the section devoted to behavior, personality and habit training of normal children, normal development from childhood to adulthood was defined as the increased ability of the individual to care for himself and meet his needs. The tendency of classifying individuals into personality types was discussed and the conclusion reached that at present most individuals are mixed or intermediate in type and only the extremes are clearly differentiated, and that there is as yet no objective basis for characterizing individuals in regard to particular traits. The work done in personality study in the past fifty years is considered of great value, particularly because of increasing recognition of the fact that the behavior and personality of the individual are determined not only by inherited equipment but also as result of environment and that inherent tendencies of reaction can be encouraged or discouraged by training. The opinion is expressed that training during early childhood is of particular importance in establishing basic personality traits which may be the desirable or undesir-

able and persist more or less throughout life. Because of this it is felt that parent education is an extremely important factor in child welfare and the physician, by virtue of his relationship with the family, is the logical person to guide parents in the problem of child training. Such responsibility for training for healthy emotional and intellectual development should be as much a medical responsibility as the matter of the physical health of the child.

The influence of nutrition on mental growth is briefly considered: there is little uniformity of opinion on this matter; in fact, rather divergent views and insufficient reliable evidence to warrant any definite conclusions. The relationship between physical development and mental development also requires further study. There appears to be some correlation between mental development and the rate of ossification. Glandular secretions, diet and sunshine, while they definitely affect physical growth, have not yet been demonstrated to influence mental development. At best it might be stated that a positive but low relationship between intelligence and physical measurements has been found; however, the correlation is so low and the overlapping so great that for purposes of prediction they are of no value.

Structural and functional disturbances of the nervous system as having bearing on the mental status were also discussed and the opinion expressed that acquired damage to the nervous system is probably a greater factor in the production of mental deficiency than is defective heredity. Birth injuries were considered the most frequent offenders and such damage occurs with greatest frequency in first-born babies, premature babies and babies delivered feet first. The opinion is expressed that because of interest in acute lesions sufficient consideration has not been given to the frequency with which damage to mental development is produced by infectious diseases, such as whooping cough, measles and mumps. When mental development has been impaired as the result of damage to the nervous system, which does not regenerate, unfortunate discouraging prognoses are often given because physicians are not sufficiently aware of what can be done through special training and education.

The report of Dr. Cruthers on the relationships of psychiatry and psychology to child health is lengthy and it is impossible to do justice to it in the brief time available. It should be read in full by all members of the medical profession. Dr. Cruthers carefully surveys the whole field of study that has been opened up concerning the personality of the child; the very nature and extent of the field has attracted a great number of workers of

various groups, of whom psychiatrists, psychologists, social workers and teachers predominate. He attempts to define the function of these various groups, emphasizes the necessity of considering the individual in distress as a medical problem, deplores the unwarranted promises of propagandists and unwise enthusiasts of the mental hygiene movement, yet recognizes that encouraging progress has gone on in spite of existing confusion. He feels that psychiatry is of definite value in recognizing unhealthy trends of development at an early date and feels that much of what is now specialized knowledge will be incorporated into common sense procedures of child training. He expresses the hope that general practitioners and pediatricians will undertake the task of acquiring an intelligent attitude and an effective working technic, believing that if they cannot offer intelligent advice upon difficulties which threaten the orderly and satisfactory development of personalities in children under their care they will be forced to accept the status that will deprive them of many opportunities to help their patients and that their practice will be made less interesting. It is felt that much responsibility for the unpreparedness of the general practitioner and pediatrician in this field is the result of inadequate instruction in psychiatry in the medical schools. This defect is probably qualitative as well as quantitative.

The work that is being done at the present time is reviewed and includes psychiatric clinics, child guidance clinics and work under supervision of nonmedical people. Confidence is expressed that a great many medical men who are not psychiatrists are psychiatrically-minded and can give good service to parents. The desirability of extension into this field of work by nonmedical groups is discussed at length with the conclusion that physicians can acquire relevant, psychological and educational attitudes and technics more safely than psychologists and teachers can acquire medical assets and that supervision of children in distress should be a medical responsibility.

In discussing the place of psychology and psychiatry in pediatrics and general medicine, it is pointed out that observation and supervision of development of personality is not only a matter of interest but of real value in forecasting and controlling the course of physical disorders. It is felt that pediatricians could improve the quality of their service if systematic effort were made to gain information about children under their care along the following lines:

1. Are parents aware of emotional and intellectual changes that occur in the course of development? Are they familiar with satisfactory methods of dealing with problems such as enuresis, temper tantrums, feeding problems, masturbation?

2. Are they aware of the emotional needs of the child? Do they encourage increasing independence, self-reliance and self-respect? Can they deal sanely with questions of sex and responsibility?

3. Inquiries and records should be kept as to the child's intellectual and educational progress as well as physical growth.

Such matters are implied in adequate medical service and will be required to an increasing degree in the future. Emphasis is placed on necessity of regarding pediatrics as concerned with child health considered in a broad sense, emotional, intellectual and physical, and that pediatrics will extend its borders in the future so as to include much of what is now psychiatric and psychological.

4746 McPherson Avenue.

PRENATAL AND MATERNAL CARE

HUGO EHRENFEST, M.D.

ST. LOUIS

One of the three main committees constituting the medical section of the White House Conference on Child Health and Protection under the leadership of Dr. Fred L. Adair dealt with the general topic of prenatal and maternal care. Its five subcommittees studied the specific problems of (1) obstetric teaching and education, (2) maternal and early infant care, (3) interested organizations, (4) factors and causes of fetal, newly born and maternal mortality and morbidity, and (5) basic sciences and maternal and fetal problems.

Only a brief and necessarily incomplete summary can be offered here of the wealth of information and valuable suggestions presented in the numerous reports prepared by the large membership of the five subcommittees.

"We all realize," states Chairman Adair, "that there is a wastage of maternal lives due to controllable causes operating in connection with childbearing, and that our country lags behind the civilized world in the prevention of these deaths. While there may be sources of error in the interpretation of comparative statistics and the situation in other countries may not be as ideal as it seems, nevertheless those who have opportunity of knowing the situation here realize that the mortality of both mothers and young infants is unnecessarily high."

Vital statistics as now offered concerning maternal and early infant deaths leave much to be desired on the part of those who are striving to arrive at a clear understanding of the

actual and immediate causes of such deaths and therefore various modifications in birth and death certificates as now used are desirable.

For the purpose of analysis and discussion, present efforts to improve admittedly unsatisfactory conditions can be conveniently divided into those pertaining to prenatal, intranatal and postnatal care.

Prenatal Care.—Comparative statistics on large groups of women who had or had not received satisfactory prenatal attention leave no doubt concerning the efficacy of such care in saving lives. Possible difficulties of labor can be forecast and thus timely provision made for delivery under the most favorable conditions. Complicating diseases are diagnosed and their deleterious effect on mother and baby reduced to a minimum. As best examples, may be cited present results in respect to tuberculosis and syphilis. It now is evident that tuberculous pregnant women in general derive less benefit from interruption of pregnancy than from prompt and proper attention to their disease. It seems unthinkable that this country will any longer leave the tuberculous pregnant woman to that haphazard and entirely inadequate care she has all too frequently received in the past. At this time the responsibility of discovering syphilis in a pregnant woman rests largely with the general practitioner. Efficient treatment, instituted early, will not necessarily cure the patient but almost in every instance it will prevent the baby from having the disease. Thus it becomes our task to induce not only more women to seek prenatal care but to seek it early.

In a large group of women suffering from diseases of the heart, lungs, kidneys, nervous system, etc., especially when living under conditions which preclude absence from work, obtaining required rest, proper nourishment and other essential therapeutic measures, the consulted physician frequently arrives at the conclusion that further deterioration of the physical condition could be reasonably or definitely expected from impregnation within a given time. Such patients must be warned against pregnancy and if married are entitled to information concerning contraceptive methods, always with the warning that no fully dependable method is known to the medical profession. Permanent and temporary prevention of pregnancy from this viewpoint represents an item of great importance in the elimination of factors which cause mothers and babies to die, or to become invalids for life.

Appropriate prenatal care will materially reduce maternal and fetal deaths from severe toxemias and will prevent many premature labors. The largest loss of fetal life, however,

occurs during the first few months of intra-uterine existence as the result of intentional criminal interference with an existing pregnancy. Available data show that the abortion rate is rapidly increasing in spite of the wider spread of contraceptive information and practice. A recent investigation made by the Children's Bureau of the Department of Labor revealed the alarming fact that about 25 per cent of all maternal puerperal deaths occurred subsequent to abortions and that of all the deaths following criminal abortion 91 per cent were due to septicemia. The conclusion seems inescapable that the women of this country are far from appreciating the great risk to life and the still greater danger to future health inevitably connected with willful interruption of pregnancy. We must admit, however, that criminal abortions are not solely the result of selfishness but are at least in part dependent upon factors which at present cannot be eliminated, namely the marked reduction in infant mortality together with the profound change in social-economic conditions.

Prenatal care alone, however, cannot solve the vexing problem of high maternal and newly born mortality. All advantages gained by adequate antenatal supervision are completely lost if the methods of delivery are careless or faulty.

Intranatal Care.—Proper prenatal care must be followed by expert medical and nursing service during confinement and must finally be supplemented by postnatal attention.

Satisfactory care during childbirth is dependent on the physical condition of the place of delivery, on the care and skill of the attendant, physician or midwife, and on the available nursing service. The necessity for better training of nurses for obstetric service in hospital and home will be discussed tonight by essayists more competent than myself.

Though less than 15 per cent of all women in this country are delivered by midwives the percentage of such deliveries in certain areas and especially among Negroes is so large (40 per cent and more), that the midwife at present is a necessity. Every effort must be made to improve her as rapidly as possible. The midwife problem is distinctly local or regional and therefore it seems best that she be trained in or near the communities where under present conditions her services are most needed. Of greatest importance is continued and strict supervision of her work with occasional additional postgraduate instruction. The best solution for the very unsatisfactory status of obstetric attention in rural and sparsely settled regions seems to lie in an arrangement by which one or more competent midwives or, still better,

graduate nurses specially trained in obstetrics do their work under the immediate control of an obstetrician. No more convincing example of the effectiveness of such a scheme or a similar one could be cited than the work of the Frontier Nursing Service in the Kentucky mountains under the able direction of Mrs. Mary Breckenridge.

Thorough and I might say pitiless investigations of the undergraduate and postgraduate instruction in obstetrics given in our medical schools revealed a situation far from pleasing. It would be impossible to mention here the findings and suggestions for necessary improvements contained in the several exhaustive reports. They are published in full in the June, 1931, number of the *American Journal of Obstetrics and Gynecology*. There is almost general agreement among the leading obstetricians that only combined departments of obstetrics and gynecology can develop the ideal obstetrician, the obstetrician with surgical skill. Training of this sort for all physicians doing obstetric work would promise to reduce materially the present great loss of maternal lives from hemorrhage during labor. The ultimate solution of the problem of good obstetrics lies in the development of a sufficient number of physicians fully equipped and temperamentally fit to manage women during childbirth.

Hospital deliveries should at least theoretically prove safer to mother and child than deliveries in the home. In this country the percentage of hospital deliveries is rapidly increasing especially in the cities but seemingly without the expected decrease in maternal and newborn mortality.

Delivery by artificial means has become increasingly frequent, particularly in hospital practice. The obstetric operative rate amounts to approximately 15 per cent in Scandinavian countries and England, but was found in this country at present to range between 65 and 80 per cent. Various factors can readily be discerned for this undesirable growth of a radical trend in delivery practice. With the parturient woman in a hospital a feeling of safety is created often falsely. The patient probably has asked for and possibly has been promised a comfortable and short labor. Woman is entitled to relief during labor but investigations show that at present anesthetics are employed too liberally. Most of them interfere with uterine activity or affect unfavorably fetal heart action. Instrumental delivery is thus more often required and, as a matter of fact, too frequently employed. Such practice satisfies the desire of many women for a short labor, but we might as well admit that there are various other factors to account for this strik-

ing decrease in spontaneous, conservatively managed deliveries.

In individual instances a timely and skillful operative delivery certainly can save a mother or a baby but, in general, artificial interference noticeably adds to the risk of both. No obstetric operation is really harmless. In view of the relative frequency of damage to the birth canal and to the baby incident to breech deliveries and forceps extraction, no argument can be raised against a demand that a breech presentation discovered during prenatal examination should, if possible, be corrected by an external version carefully done without a general anesthetic, and that forceps extractions, especially in the home, should be limited to definite indications. The ill-advised use of cesarean sections at present constitutes the most serious departure from safe and sane obstetric practice. Investigations show that there are physicians in this country who resort to this operation in from 10 to 20 per cent of their deliveries, and that there are hospitals with a cesarean frequency of 15 per cent and more. The operation it seems is steadily gaining in popularity, a popularity entirely undeserved since its average maternal mortality in this country actually amounts to from 5 to 10 per cent.

The maternal death rate from infections has remained practically unchanged for the past fifteen years. We know that the incidence of infections is increased by all vaginal manipulations and particularly by all types of artificial delivery. The bearing of the method of delivery on mortality rates is well demonstrated in an analysis made by the state board of health of Massachusetts of the deaths of 370 primiparous women. About a hundred had died as a result of sepsis and another hundred from toxemic conditions. But of the 370 deaths, 116 had followed cesarean section, 106 forceps extractions, 11 breech extractions; that is, a total of 233 of the 370 deaths occurred subsequent to operative deliveries, with the incidental loss of about one third of the babies. Some investigators express the opinion that all the advances of preventive medicine seem almost lost to the parturient women by the too frequent resort to interference with labor.

The intimate relation of an injury of the child in birth to his immediate or early death or to later physical or mental deficiency is today generally recognized. Intracranial damage, the most frequent type of such injury, thus naturally plays an important role in the causation of stillbirth, neonatal mortality and infant morbidity. Responsibility for such injuries not necessarily rests with the attending obstetrician, but their occurrence certainly is greatly influenced by his judgment and skill

especially as far as obstetric operations are concerned. An advancing labor should never be hastened and never shortened by interference of any sort if there are no valid reasons for it.

A critical study of such facts raises the pertinent question whether it would not be more advantageous for the women of this country to exhibit active interest in the evident dangers rather than in the discomforts associated with childbirth. The dissemination of intelligent and reliable information about pregnancy and childbirth by our Federal Children's Bureau, by state and city health boards and other competent sources has proved of great benefit, but it would be difficult to gauge the harm done by pseudoscientific, inaccurate and incorrect though possibly well meant advice freely proffered to expectant mothers in the daily press, in magazines and books, and not rarely for utterly selfish or mercenary reasons.

Postnatal Care.—"Only consecutive and rational obstetrics," states Dr. John Osborn Polak, "followed by postnatal observation for a period of two months after childbirth, will ever raise our obstetrics to a proper standard." With most of the interest concentrated on prenatal care the necessity and advantage of adequate postnatal care has been neglected. Its aims are twofold, i. e., medical and social; its duties fall on physician, nurse and the social worker; its benefits are shared equally by mother and child. Again I shall refrain from discussing the role of nurse or social worker in this task and also from emphasizing the advantage to the child. These questions are more competently handled tonight by other speakers. Very little need be said in regard to the necessity of one or two postpartum examinations. All my listeners are familiar with the efficacy of prompt attention to minor infections, erosions, uterine malpositions and other common ailments of puerperal women in the prevention of later disease and even of permanent invalidism of the mother. We should have a larger number of properly staffed postnatal clinics with specially trained visiting and public health nurses and social workers to conduct a careful follow-up into the homes of all delivered patients.

Conclusions.—Numerous organizations, societies and funds, official and private, in this country, are endeavoring in various ways to help the expectant mother and the new-born infant. But the outstanding need is general agreement on a coordinated, nation wide program which necessarily must include provisions for better training of medical men in obstetrics, for the better training of midwives, possibly the training of graduate nurses in obstetrics, and for an increase in maternity beds to permit

hospitalization of at least all febrile abortion cases and of all women whose pregnancy is complicated by an intercurrent disease, tuberculosis in this respect taking first place. We furthermore can hope to reduce present mortality and morbidity rates of mothers and infants by a campaign of education: teaching those responsible for state and city government that the problems of human obstetrics deserve their intelligent and active support; teaching prospective mothers what constitutes adequate and safe obstetric care and how it benefits them and their prospective children. We must include the prospective fathers in this educational program so as to secure their aid for the realization of our aim to give to the women of this country an obstetric *service* that would stand in full agreement with present obstetric *knowledge*.

316 Beaumont Medical Building.

SUMMARY OF THE SURVEY ON THE PREVENTIVE MEDICAL SERVICE TO PRESCHOOL CHILDREN

D. M. COWGILL, M.D.

ST. LOUIS

There are several points which need to be made clear before going into the figures of the survey.

The survey deals wholly with children under six years of age. This information was collected by local people, a personal inquiry being made at each home. In St. Louis the information was gathered by nurses of the Visiting Nurses' Association, the Municipal Nurses' Association, workers of the Provident Association, workers of the Children's Aid Society and workers of the Social Service Department of Washington University and allied hospitals. The districts surveyed in each city were selected by the central office in Washington in an impersonal manner so as to provide a fair picture of the city. The term "health examination" means a visit to the doctor for health advice while the child is well. Similarly a "dental health examination" means a visit to the dentist not because of a toothache but just to have the teeth looked over. In other words the results of this survey do not show the proportion of children who have ever been to a doctor or a dentist for any cause, but only that proportion which have sought the doctor or dentist for health advice and attention.

The results of this survey are not the facts for every preschool child in the city; they are merely an indication or index of the situation based on a sampling of at least 2 per cent of the preschool child population. In St. Louis

the survey covers only 2 per cent of the pre-school child population while in some of the smaller cities as many as 10 per cent were included in the survey. These results are only as accurate as the replies given to the person making the inquiry at the home.

Barring a few minor mistakes it is believed by the committee that these results give a very dependable picture of the actual facts, but since the sampling in the cities was rather small these results are merely taken as an index of the situation and not the complete picture.

The survey also covers rural areas. The survey covered 140,000 children in 146 cities and 37,000 children in the rural sections of 32 states.

The committee did not feel that the rural survey was as indicative of conditions as the city survey, due to the method of sampling. In the cities the public schools were used for markers for the districts. The committee in Washington picked out the school districts according to economic status as reported to the committee by the local people. The sampling areas were selected at random from this information. This method could not be followed in the rural sections, but reliance was put in the local workers to use their best judgment in selecting families for questioning.

All states were represented in this survey except Vermont, West Virginia, New Mexico, Louisiana and Wyoming. There were four main questions asked, viz., (1) how many children under six years of age have had a health examination; (2) how many children from three to six years of age have had a dental health examination; (3) how many children under six years of age have been vaccinated against smallpox; (4) how many children under six years of age have been given toxin-antitoxin for immunization against diphtheria.

HEALTH EXAMINATION

In answer to the first question the range of percentage of children having had health examinations runs from the highest city, 82 per cent, to the lowest, 12 per cent. The United States city average is 48 per cent. The average for St. Louis is 50 per cent, so that St. Louis is below the highest but above the United States general average.

The United States city average is not strictly speaking an average; it is the middle city, above which are half of the cities and below which are half of the cities.

If the records are drawn together from all the cities and the average computed of children having had health examinations for the entire group this figure will be 51 per cent.

Considering the age at which these health

examinations occur, it is interesting to note that under one year of age there are 57 per cent while under five years of age there are but 52 per cent, which means that the majority of the children under one year of age have health examinations. If the health examinations are given for the first time in the second and third years, and so on, we would expect to see the percentage increase from year to year. The reasons for the younger children having more examinations indicated that more baby examinations were given in 1930 than in 1929, and so forth. This bears out the statement that parents as a rule are not interested in health examinations after the first year.

Regarding the relation of economic status to health examination, it was found that the number of examinations varies directly with the economic status the average for the highest economic status being 62 varying downward to the lowest of 43. In St. Louis the averages vary in the following order: (1) the highest economic status, 51 per cent; (2) medium high, 61 per cent; (3) average, 38 per cent; (4) medium low, 37 per cent; (5) lowest, 40 per cent, showing a slight general tendency downward with the economic status. This shows that the lower economic groups are making use of the clinics and health centers to a considerable extent.

DENTAL HEALTH EXAMINATION

The percentages of dental health examinations range rather low, the highest city being 46 per cent and the United States city average being 10 per cent and the lowest 1 per cent. The St. Louis average is 9 per cent. Where fifty well youngsters out of a hundred go to a doctor for health advice only 10 out of a hundred go to a dentist for health advice.

The dental health examination depends somewhat on the family economic position, as in the general health examination. The number of the examinations vary according to the economic status from one the highest of 20 per cent down to five the lowest of 4 per cent. In St. Louis the averages are: (1) the highest economic status, 9 per cent; (2) medium high, 11 per cent; (3) average, 6 per cent; (4) medium low, 11 per cent; (5) lowest, 4 per cent.

VACCINATION

The percentages of vaccination run from the highest of 48 per cent to the lowest of 2 per cent in the city, with the United States city average of 14 per cent. The average of the St. Louis survey shows 18 per cent, a little above the United States city average.

The age at which the children are vaccinated increases from 4 per cent under one year to

45 per cent in the five-year class. In St. Louis we have 1 per cent vaccinated under one year and increasing up to 54 per cent at five years of age. You will note that there is a marked increase in the vaccination of preschool children just before entering school. As to the vaccination and economic status we find that it varies downward from 17 per cent, economic group 1, to 11 per cent in economic group 5. In St. Louis this was not true. Economic group 1 shows 18 per cent vaccinated, economic group 2, 18 per cent, economic group 3, 16 per cent, economic group 4, 21 per cent, economic group 5, 16 per cent.

IMMUNIZATION. SHOWING THE USE OF THE MUNICIPAL CLINICS

In regard to immunization, we find that the averages range from 50 per cent down to 1 per cent, the United States city average being 15 per cent. The St. Louis average is 10 per cent which is considerably below the United States city average.

The age at which children are immunized for diphtheria ranges upward from under one year, 3 per cent, to five years, 33 per cent. In St. Louis it ranges from 2 per cent under one year to 17 per cent at five years of age.

The relation of economic status to immunization varies directly downward. From economic group 1 the highest at 20 per cent to economic group 5 the lowest at 9 per cent. In St. Louis it varies from economic group 1 the highest at 13 per cent to 2, 10 per cent; 3, 9 per cent; 4, 8 per cent; 5, the lowest, 6 per cent.

The averages of the grand totals show the following percentages of all the children surveyed: Health examination, 51 per cent; vaccination, 22 per cent; immunization, 22 per cent; dental health examination, 13 per cent.

Comparing the city averages with the city, and rural averages with the rural areas, on health examinations we find a United States average of grand total for cities of 51 per cent and a rural average of 37 per cent.

Considering dental health examinations we find the United States average of grand total for cities at 13 per cent, the average of the rural area 13 per cent.

Considering vaccination, the United States average of grand total for cities is 22 per cent and the United States rural average is 7 per cent.

Regarding immunization we find the United States average of grand totals for cities is 22 per cent and the United States rural average 18 per cent. There are more health examinations, dental examinations and vaccinations in the city than in the rural area. In the matter of health examinations, the rural areas are at a

disadvantage due to the distance from the examining physician.

You can see from this that there is a great variation in various cities and states regarding these points. In some cities the higher economic groups have the most examinations while in others the lowest have the most examinations. What is the cause of this?

It shows a definite need for educational work all over the country regarding public health matters.

2221 Locust St.

MEDICAL SOCIAL SERVICE

MISS EDITH BAKER

Director, Social Service Department, Washington University Dispensary and Allied Hospitals

ST. LOUIS

The subcommittee on medical social service in assembling information and in presenting its report had the following purpose in mind, i. e., to report:

1. The extent in quantity and geographic distribution of medical social work in medical institutions of the country.

2. The various interpretations of function of medical social service and suggested criteria of quality of practice.

3. Illustrative material showing integration of medical and social service for special diagnostic groups.

4. Organization of service with regard to special problems within the institution and in the community.

5. Educational equipment of the personnel engaged in this field.

6. Present facilities for education of medical social workers.

7. Relation of medical social service to the professions of medicine, nursing and social work.

8. Recommendations based on findings.

It is obviously impossible to cover the entire range of subject matter tonight so this report will deal briefly with the extent of medical social work, its function and its relation to medical education.

EXTENT OF MEDICAL SOCIAL WORK

There are known to be 598 social service departments so-called in hospitals and clinics of the country. Twenty-five departments are in clinics not attached to hospitals. Five hundred and seventy-six are in hospitals or institutions with small hospitals attached. This indicates that slightly more than 9 per cent of the 6093 hospitals (exclusive of nervous and mental) of the country have social service departments.

The special types of hospitals having social service departments and the number of the various types, exclusive of those for nervous and mental diseases, are as follows: General hospitals, 459; children's hospitals, 41; tuberculosis hospitals, 20; orthopedic hospitals, 14; maternity hospitals, 13; eye and ear hospitals, 10; miscellaneous hospitals, 19, making a total of 576 hospitals.

The majority of the social service departments are established in hospitals located in the northeastern and middle western parts of the country. The group of hospitals most served is that with bed capacity from 100 to 200; the next largest group has bed capacity from 200 to 300.

It is of interest to note that in response to a questionnaire sent to physicians, 259 connected with hospitals having no social service department reported that they felt the need of a social service department, while 276 reported that they felt no such need. Discussing this attitude on the part of physicians, Doctor Grulee in his report on "Hospital Service to Children in the United States" declared that the most deplorable condition was found by his committee in respect to social service. He stated that "When one considers that so much of the understanding and treatment of children depends upon environment, it is extremely serious that only such a small proportion of the hospitals see their way clear to avail themselves of this service. In justification of this, perhaps many hospitals will state that they care for only pay patients and that the physician has a sufficient knowledge of the environment to take care of the situation, but frequently, especially in the larger centers, this statement is not correct and much can be gleaned by the action of social service departments, even on pay patients. . . . When we consider that these replies were from physicians at the head of services, it seems certain that much education is needed along this line."

THE FUNCTION OF MEDICAL SOCIAL WORK

Human disease and defect are never isolated; they exist always in a complex of personal and environmental conditions. These conditions may favor or hinder recovery and must, therefore, be taken into account in the treatment of sickness. This fact is especially important in the case of sick or handicapped children since they are always more or less dependent upon others in their group for control of their environment.

Among the factors conditioning the sickness and handicap of the child and conditioning also its treatment are: physical, mental and emotional adequacy of parents and siblings; income

of family; racial and national affiliations; living, housing, educational, industrial and recreational conditions; community resources such as special hospitals, sanatoria, convalescent homes, special schools, family and child welfare agencies, public health and nursing organizations.

There are many social organizations attacking in some way the problem of social inadequacy just as there are many medical institutions dealing with problems of ill health. So close is the relation between the two problems that it is fair to say that there is always a physical or health component in social work and always a social component in medicine. Only by breadth of understanding and by collaboration of those concerned can the ground be covered completely. There seems to be a subject for special study, however, in the relation between health and social life and it is this subject that gives rise to the special function of medical social work.

Social study, diagnosis and treatment constitute the fundamental activities in medical social practice. Ability to use the social case method enables the social worker not only to play a part in the control of the sick person's social relationships at home, at work, at school, etc., but also to help the hospital understand and individualize him, meet his particular, immediate needs and help secure his participation in the necessary medical and administrative procedures.

The social situation of a child at any age, subject to any defect or health hazard or to none, may upon inquiry be found lacking in the security and opportunity favorable to the health and development of all children. The process of gestation and birth in itself is more or less disabling to the mother, and the child is a burden, even if a welcome one, upon the personal and economic resources of family and community. Sickness and defect increase the burden of anxiety and cost and, where there is little or no margin of resources in the family and insufficient supplementary resource in the community, may go so far as to break down the social self-maintenance of the family.

On the other hand, there may be strains and inadequacies in the situation originating apart from the child but threatening the child. Such, for example, is the condition in the broken home; the unmarried family; the family in which there is mental defect, physical handicap, or communicable disease; the over-large family; the family with parents emotionally immature or poorly adjusted to each other. In the case of such inadequacies, the effort of medical social work is to strengthen the situation by organization of suitable personal and material

aid and by education of the family group to its own best possible understanding of its needs, self-direction and use of available services and materials.

Modern medicine more and more requires the participation of patient and patient-group in remedy and prevention of sickness; to stimulate and develop adequate participation is a large part of the purpose of medical social work. Finally, medical social work acts to make medical and social care a continuous whole for the sick and disabled by integrating the services of the medical and social agencies of the community.

RELATION TO MEDICAL EDUCATION

It is plain that since the medical and social are so combined in the patient's life, each profession which focuses its art upon any part of that life must concern itself to some extent with the other parts. As there must be, therefore, an element of the medical in the education of the social worker, so there is need for the study of social subjects in the education of the physician. The interpretation of the social aspects of disease to students of medicine has been for many years a responsibility of a few social service departments but clinical social courses have not been a part of the medical school curriculum. The cooperation of social service has been enlisted by the individual teacher, the professor of medicine, surgery or pediatrics, rather than by a definite educational affiliation with the medical school. Medical social workers are taking this responsibility seriously. They not only feel that it is one of the services which they are glad to render to the physicians with whom they are associated, but they also see that this sort of integration of the social and the medical teaching will influence the attitude of the interns and physicians of the future.

The serious pressure on the medical curriculum which the rapid advances in science are bringing makes it difficult to see how another element can be added. However, the progress in medical teaching is recognized by its leaders as necessarily taking into account the psychological and social aspects of the situation. The school, home, workshop have been called the social laboratory from which should be available discriminating data bearing on the patient's disease, prognosis and treatment. Medical educators and others concerned with the graduates of the medical schools as they find their places in the field of public health or organized medicine may well give this subject serious attention.

Considering the traditional plan for White House conferences repeated every ten years, where will medical social service be in 1940?

It is a very grave responsibility to face but it cannot be ignored. Any medical social worker will not do. The thoroughly trained and qualified worker must be the one of the future if medical social service is to meet the opportunities and challenges presented by the various committees of the 1930 White House Conference.

Washington University Dispensary.

REPORT OF SUBCOMMITTEE ON PEDIATRIC NURSING

MRS. BERTHA YENICEK

Superintendent, Municipal Visiting Nurses

ST. LOUIS

The information for the report of the subcommittee on pediatric nursing of the White House Conference for Child Health and Protection was obtained from replies to questionnaires, interviews, contacts, and all available sources. The entire report is voluminous both as to length and content. The final report of this subcommittee was given by Miss Stella Goostray, R. N., secretary of the National League of Nursing Education and superintendent of the School of Nursing at Children's Hospital, Boston.

I shall attempt to give only a brief summary of the more important findings of this committee and its recommendations. The committee considers the functions of the graduate nurse in pediatrics to be (1) to help care for sick children in their own homes, in hospitals, clinics and other institutions; (2) to help promote the health of children wherever they may be; (3) to help teach parents and others how to care for children, sick or well.

She may be performing these functions as a private duty nurse, an institutional nurse, a dispensary nurse, an office nurse, or as a public health nurse in a rural or urban community. No matter in which field she functions, she has a responsibility for child health promotion and education as well as for care of sick children.

From a study made in ten states of the records of 24,389 nurses actively engaged in the work, it was found that 54 per cent of the nurses were engaged in private duty nursing; 23 per cent in institutional work; 19 per cent in public health work and 4 per cent in unclassified activities.

Barely sixty years have elapsed since the first training schools for nurses were established in this country and these training schools marked the beginning of modern nursing. The development of medical science with its emphasis on preventive medicine has made oppor-

tunities for a like development in the profession of nursing and has opened a larger number of fields to the nurse.

There are approximately 1,900 accredited schools of nursing at the present time and these schools graduate approximately 20,000 nurses each year. From the 1,229 questionnaires returned, it was found that one fourth of these nursing schools were connected with hospitals having a daily average of 42 patients or less.

It is questionable if a hospital having a daily average of less than 50 patients has sufficient clinical material to warrant organizing a school of nursing. The committee on education of the International Council of Nurses, which includes representatives of the nursing organizations of thirty countries, has gone on record as believing that no hospital with less than a daily average of 100 patients should have a school of nursing.

It is considered important that every student have pediatrics as part of her fundamental nursing education. The curriculum of the National League of Nursing Education indorses three months of ward practice in the care of sick children in a three year or twenty-eight months' course, and thirty hours of classroom instruction. The correlation of theory and practice is a sound educational principle and is a necessary safeguard to the patient as well.

The questionnaire returned from 550 schools of nursing showed that on the whole there is little opportunity offered in these schools for practical experience with well children, and the educational and psychological aspects of child care are given no place or very little attention in courses for nurses.

A very serious defect in the training of nurses and one which is even more important to those who intend to do pediatric nursing is the lack of experience in communicable disease nursing. In a study made by the committee on the grading of nursing schools it was found that only one school in three provides any experience in this service; and in this one in three, many provide it for only a few as an elective. Inasmuch as the incidence of communicable diseases is greatest among children it is important that as many nurses as possible have experience in this branch as part of their preparation for pediatric nursing.

Many hospitals are not sufficiently well organized for the educational needs of the students. Instruction is slipshod and not effectively correlated with practice. It is evident that more often than not hospitals establish schools of nursing in order to provide a cheap means of obtaining nursing service and therefore base the experience given to the stu-

dent nurse on the daily needs of the hospital without consideration of her future work in the community.

There are not enough hospitals in the United States having sufficiently large and active service in pediatrics to offer this training through their schools of nursing. The quantity and variety of teaching material in pediatrics in schools of nursing is becoming more and more limited because of the growing tendency to care for sick children at home rather than in hospitals due to the general belief that children thrive better at home than in institutions, and for the same reason the early discharge of children from hospitals. Also, the present day program of prevention keeps a much larger number of children well.

Inasmuch as it is true that experience with sick children in hospitals is limited and that more young women are being prepared for nursing than ever before, where the experience in the hospital is inadequate it should be supplemented by experience in other institutions and public health nursing agencies which meet the standards necessary for student nurse affiliation. To ask that every student in every school of nursing be required to have three months of experience in pediatrics in a hospital ward under present conditions is asking the impossible. The question arises, however, whether all hospitals which are at present conducting schools of nursing are justified in so doing when they cannot, either by experience in their own hospital or by affiliation, give the student nurse the training which makes it safe for her to care for any type of patient.

Due to these deficiencies in general nursing courses, so-called postgraduate courses in pediatric nursing at present exist mostly by giving additional experience to make up for these deficiencies. Courses for advanced study of and experience in pediatric nursing are not at present available for those wishing to prepare themselves for positions as directors, supervisors and instructors in pediatric departments or as specialized pediatric nurses.

Some of the more important recommendations of this subcommittee are:

1. No hospital should be expected to bear the cost of nursing education out of funds collected for the care of the sick. The education of the nurse is as much a public responsibility as is the education of physicians, public school teachers, ministers, lawyers, librarians and other students who plan to engage in professional public service, and the cost should come not from hospital budgets but from private and public funds.

2. That the hospital is faced with serious financial difficulties should have no bearing up-

on whether or not it will conduct a school of nursing. The need of a hospital for cheap labor should not be considered a legitimate argument for maintaining such a school. The committee further recommends that every effort be made to reduce the over-supply of poorly prepared nurses and to increase the supply of well prepared nurses by admitting to the schools of nursing only candidates who meet the following requirements: (a) Candidates should be 18 years of age or over; (b) they should have good intelligence, good mental and physical health, character, and personality enough to meet the unusually heavy demands made upon the nurse in the performance of her peculiarly responsible duties; (c) candidates to have a minimum of four years of high school or equivalent.

3. That schools of nursing do not retain and graduate young women who have demonstrated their unfitness for nursing.

4. That schools of nursing take advantage of every opportunity for giving practical and theoretical instruction to nurses in the care of well children in convalescent wards of hospitals and by use of day nurseries, nursery schools, and other child-caring institutions in the community, if they are suitably administered for teaching purposes.

5. That the preventive, social and educational aspects of pediatric nursing be emphasized in the practical and theoretical instruction of student nurses. Fuller use should be made of outpatient services, such as dispensaries and clinics for sick and well children.

6. Postgraduate courses for advanced study and experience in pediatrics should be created for nurses wishing to prepare themselves for such positions as directors, supervisors and instructors in pediatric departments or other positions requiring special pediatric nursing knowledge and experience.

7. Since it is obviously necessary that other conditions besides qualifications and preparation of nurses be improved in order to contribute the best nursing service for the children of rural communities, the committee recommended that consideration be given by the proper groups to (a) distribution of medical and nursing service and hospital facilities in rural districts; (b) full time official county, district, or municipal health organizations which will provide means of carrying out public health and preventive measures. Such organizations will attract and make it possible to hold better workers of all kinds, including public health nurses; (c) better supervision of public health nurses working in rural districts.

After listening to this report you no doubt feel that we have descended to the dark period

of nursing, but it must be borne in mind that the purpose of this study was to search for our deficiencies that we may improve our service to the community. In closing I should like to quote a statement from the general report:

There is no other country in which the nurse plays such an important part or occupies such an influential position. The nursing profession is more completely developed and organized in the United States than in any other country.*

* White House Conference, page 84, 1930.
Municipal Courts Building.

INTRAMUSCULAR USE OF LIVER EXTRACT

Maurice B. Strauss, F. H. Laskey Taylor and William B. Castle, Boston (*Journal A. M. A.*), present preliminary observations from which it appears that the intramuscular use of liver extract has all the theoretical advantages of the intravenous method and is decidedly practical both from a therapeutic and from an economic standpoint. Furthermore, some patients apparently prefer to inject a small quantity of liver extract intramuscularly rather than to ingest a large quantity of liver or to take an extract by mouth which is not altogether palatable. From the preliminary observations it seems possible that the extract necessary for a week's treatment when taken by mouth may, if given by daily intramuscular injections, suffice for from five to six months. The intramuscular method may be of even greater advantage in those cases requiring unusually large doses of extract by mouth or actually a life-saving measure in severely ill patients. The adequate treatment of cord lesions requiring large amounts of liver extract may be greatly simplified by the parenteral injection of liver extract alone or as an accessory to oral therapy. The authors describe a method of preparing an extract of liver suitable for intramuscular injection and highly potent in pernicious anemia. Maximal reticulocyte responses were obtained from the daily intramuscular injection of the extract derived from 10 Gm. of liver. The potential therapeutic and economic advantages of this method are suggested.

NEUROPATHIES

Alan C. Woods and William M. Rowland, Baltimore (*Journal A. M. A.*), present a series of 138 patients with optic neuropathies, most of whom were admitted to the wards of the Johns Hopkins Hospital in various services. Of these cases, 27.7 per cent were due to actual intracranial tumor; 5.1 per cent were due to pseudotumor; 17.7 per cent were due to syphilis; 10.9 per cent were due to arteriosclerosis; 8.1 per cent were due to posterior sinus disease; 6.5 per cent were due to multiple sclerosis; 2.9 per cent were due to focal infection; 4.4 per cent were due to toxic amblyopia; 9.1 per cent were due to miscellaneous conditions, while in 8.1 per cent the etiologic factors could not be determined.

THE ONLY CHILD

The reputation of the only child is challenged by D. A. Worcester, writing in *Hygeia, the Health Magazine*. The only child, according to studies made by Mr. Worcester and associates at the University of Nebraska, is not of less intelligence and emotional stability than the non-only child. The only child, he says, has better health and a better chance to succeed in life.

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JANUARY, 1932

EDITORIALS

RADIOLOGICAL SOCIETY OF NORTH AMERICA

The seventeenth annual convention of the Radiological Society of North America was held in St. Louis November 30 to December 4. The society is the largest and most influential organization of its kind on the American Continent. The membership is limited to physicians who devote at least a large part of their time to the use of the roentgen ray and radium in diagnosis or therapy. There are approximately 1400 active members in the United States, Canada, Mexico and South America, and corresponding and honorary members in Europe. Approximately a thousand physicians and radiologists attended the St. Louis session.

Recent discoveries made through the use of the roentgen ray, the results of scientific research and progress in the fight against cancer and other diseases through the agencies of radium and the roentgen ray were outlined in one hundred seventy-five addresses. The respective values of medicine, surgery, roentgen ray, radium, physics, chemistry and pathology in relation to the early diagnosis and treatment of diseases, especially cancer, were discussed. Clinics on important phases of diagnosis and treatment were conducted by local representatives.

Dr. Joseph Colt Bloodgood and Dr. Charles F. Geschickter, of Baltimore, presented radiographic film studies and clinics on cancerous bone lesions, and radiographic films of bone lesions of a questionable nature were presented and differential diagnoses offered by the members in attendance. These diagnoses were reviewed by Drs. Bloodgood and Geschickter and analyzed from the standpoint of diagnosis, treatment and prognosis.

A joint meeting of the Radiological Society and the St. Louis Medical Society was held at the Tuesday evening session when a symposium on diseases of the gastro-intestinal

tract was presented. Dr. Bundy Allen, Tampa, Florida, president of the Radiological Society, and Dr. Charles E. Hyndman, St. Louis, president of the St. Louis Medical Society, presided jointly.

On Wednesday evening Dr. Francis Carter Wood, of New York City, presented moving pictures illustrating "Researches and Diagnosis in Cancer and the Methods Adopted for Growing Human Cancer Cells." This presentation was concluded by the premier showing of living human cancer cells in their life cycle of division and growth.

The traditional annual banquet was held on Thursday evening with a record attendance of prominent radiologists from all parts of North and South America, many from Europe and a large group of St. Louis Medical Society members. Gold medals for meritorious work in radiological diagnosis and cancer therapy were awarded at this meeting to Dr. Maximilian Hubeny, of Chicago, and Dr. Carlos Heuser, of Buenos Aires, Argentina. The entertainment features were most elaborate including Max Steindel's orchestra and a special rendition by his famous trio, the Servian Tamboritzza, four well known soloists and the Washington University Glee Club. The program was concluded with an inspiring and illuminating address by the Honorable Joseph E. Ransdell, formerly United States Senator from Louisiana, executive director of the National Institute of Health, who discussed the research problems of today, with special reference to infectious diseases and cancer. The new president, Dr. Francis Carter Wood, New York, of the Crocker Institute, and the president-elect, Dr. Byron Jackson, Scranton, Pennsylvania, were introduced.

In addition to the scientific sessions there were extensive technical exhibits by individuals and hospital groups. Missouri physicians who received awards were: Dr. Ira H. Lockwood, Kansas City, first place for the best individual exhibit of roentgen ray photographs revealing the presence of cancer of the breast before it could be detected by the usual methods, and Dr. Paul F. Cole, Springfield, who received honorable mention for his exhibit, "New Application of Potter Bucky Grid."

Addresses delivered by St. Louis physicians and their subjects follow: "Address of Welcome," Dr. Charles E. Hyndman; "Interrelation Between the Autonomic Nervous System and Thyroid Function," Dr. Albert Kuntz; "Surgery" in the Symposium on the Thyroid, Drs. Willard Bartlett, Sr., and Willard Bartlett, Jr.; "Nasal Accessory Sinus Diseases, Clinically and Roentgenographically Correlated," Dr. L. W. Dean; "The Thymus in the New-Born," Dr. John Zahorsky; "Roentgen Diag-

nosis of Lesions in the Small Intestine," Dr. Horace W. Soper; "Estimating the Risk of Operations on the Biliary Tract by Testing the Excretory Function of the Liver," Dr. Everts A. Graham; "Roentgen Ray in the Diagnosis of Renal Tumors," Dr. John R. Caulk; "The Relation of Abnormal Calcium Metabolism to Diseases of Bone," Dr. David P. Barr; "Treatment of Post-Radiation Keratoses," Dr. Vilray P. Blair; "The Diagnosis of Endothelial Myeloma," Dr. Malvern B. Clopton and Dr. N. A. Womack, and "Present Responsibilities in Dental Radiography," Dr. Clarence O. Simpson. Dr. David S. Dann, Kansas City, delivered an address on "Further Roentgen Studies of the Aorta," and Drs. Ira H. Lockwood and Wendell Stewart, of Kansas City, presented an address on "Diagnostic Problems in Consideration of Surgical Lesions of the Kidney."

Invited guests from foreign countries included Drs. Gustav Peter and Manuel Madrazo, Mexico City; Carlos Heuser, Buenos Aires, Argentina, and A. Reisner, Frankfurt-on-the-Main, Germany. Prominent American speakers were Drs. Joseph Colt Bloodgood, Baltimore; Lauriston S. Taylor, Washington, D. C.; Leon J. Menville, New Orleans; Francis Carter Wood, New York, and Bundy Allen, Tampa, Florida.

Dr. Edwin C. Ernst, St. Louis, was chairman of the local committee on arrangements and was assisted by a large staff of St. Louis physicians.

THE CARBON MONOXIDE MENACE

Year after year the public is warned through the newspapers and over the radio to guard against breathing carbon monoxide gas in the fumes that flow from the exhaust pipe of a running automobile engine. During 1931 one state health department kept clippings about people being overcome or dying from inhaling this gas and the incidents totalled 85. Doubtless these newspaper clippings represent only a portion of the instances of citizens losing their lives or becoming ill from inhaling carbon monoxide gas so that the total was probably much larger than 85. It is reasonable to suppose that every person who habitually drives an automobile either possesses a radio or reads the daily newspapers and is therefore familiar with the menace of this gas so the fatalities from this cause must be ascribed to thoughtlessness or deciding to "take a chance" rather than face a cold draft from an open garage door.

Carbon monoxide gas acts insidiously and without warning. It is tasteless, colorless and odorless. By the time one realizes that something is wrong, if he becomes cognizant of it,

he is so far overcome that he loses consciousness before he can reach the open air. The gas escapes from the exhaust pipe with sufficient force to carry it a distance into the atmosphere and the monoxide element, being slightly lighter than air, quickly permeates the atmosphere throughout the garage. A person then is overcome irrespective of whether he is lying under the car, sitting in the car or standing.

The only safety is to have garage doors wide open before starting the engine of the automobile and the only safe way to work behind closed doors with a gas engine running is to attach a hose tightly to the end of the exhaust pipe and run the hose into the open air through some aperture in the building.

THE CHEMICAL LABORATORY OF THE A. M. A.

Twenty-five years ago the Chemical Laboratory at the headquarters of the American Medical Association in Chicago was established and one chemist and an assistant aided the Council on Pharmacy and Chemistry in its consideration of proprietary medicinal products. Now, four chemists, an assistant and a secretarial staff not only aid the Council on Pharmacy and Chemistry but do a great deal of purely constructive work in standardizing or examining new remedies. The laboratory has broadened its activities to include the examination of nostrums and the results are published in the *Journal of the American Medical Association* under the "Bureau of Investigation." Each year a limited number of original investigations on topics which may aid in improving materia medica are undertaken. The medical profession and the lay public have been well served by the Chemical Laboratory and the Laboratory is to be commended on its contributions to the advancement of medical science and the protection of public health.

PAPERS FOR THE JEFFERSON CITY ANNUAL SESSION

Members are invited to submit titles for the program of the next Annual Meeting of the Association to be held at Jefferson City, May 23, 24, 25 and 26, 1932. Members in St. Louis should address their requests to Dr. Robert F. Hyland, 3901 Park Avenue. Those in Kansas City should address their requests to Dr. James E. Stowers, 915 Professional Building. Members in other parts of the State may address Dr. E. J. Goodwin, 1023 Missouri Building, St. Louis.

The Program Committee is endeavoring to obtain the consent of several members of the profession outside of Missouri, eminent in their respective fields, to deliver addresses at the Session.

CLINIC TOURS TO EUROPE

Members will find a four-page insert in the back form of this issue announcing clinic tours to Europe next summer under the auspices of the state medical association journals and the business management of the Amerop Travel Service, Inc. Attention is directed to this announcement so that those who contemplate a European trip may be informed of the plans and arrangements of this special service. Those who may be interested should fill in the blank on page 4 of the insert and mail to the headquarters of the State Medical Association, 1023 Missouri Theater Building, St. Louis.

NEWS NOTES

Drs. Sherwin E. Mella and R. Lee Hoffmann, Kansas City, were the guests of the Franklin County Medical Society at Ottawa, Kansas, on the evening of November 25.

Dr. M. Pinson Neal, Columbia, was elected chairman of the Section on Pathology of the Southern Medical Association at the New Orleans session, November 18 to 20. He was also chosen to serve on the committee on awards in the Section of Scientific Exhibits.

The library of the Jackson County Medical Society, Kansas City, is attempting to replace some volumes of the Quarterly Cumulative Index to Current Medical Literature and the Quarterly Cumulative Index Medicus because the volumes are becoming badly worn. Members who have any parts of the series that the library might obtain are requested to notify the librarian, Medical Arts Building, Kansas City.

Dr. Richard L. Sutton, Kansas City, eminent skin specialist but also well known big game hunter, was the guest speaker at the annual meeting of the Randolph-Monroe County Medical Society at Moberly December 8. Dr. Sutton delivered an illustrated address "The Long Trek" telling of big game hunting in Africa and Indo-China. Approximately 400 physicians, their families and friends attended the lecture.

Physicians present at the meeting were: Drs. O. O. Ash, M. E. Kaiser, L. E. Huber, C. H. Dixon, Jesse Maddox, F. L. McCormick, O. K. Megee, L. O. Nickell, C. C. Smith, P. C. Davis, T. S. Fleming, of Moberly; M. C. McMurry and J. F. Flynt, of Paris; F. L. Harms and G. W. Hawkins, Salisbury; J. W. Winn and C. F. Burkhalter, of Higbee; W. O. Hawkinson, Roanoke; Ed. S. Smith, Kirksville, and D. A. Barnhart, Huntsville.

Dr. C. O. Dewey, of Clarinda, Iowa, is second assistant on the medical staff of the Clarinda State Hospital in charge of Hope Hall and not in charge of the hydrotherapy department as was stated in the December issue of THE JOURNAL.

Dr. Richard L. Sutton, Jr., Kansas City, was the guest of the Craig County Medical Society at Vinita, Oklahoma, on November 30. In addition to holding a dermatological clinic and reading a paper on the diagnosis and treatment of cancer of the skin, he delivered a travel lecture before the members of the society and their friends. On December 2 he held a clinic and gave a lecture at the United States Veterans' Hospital at Muskogee, Oklahoma.

All the radium in the world could not produce rays of greater intensity than the new 900,000 volt, cascade roentgen ray tube of the New York Memorial Hospital, Dr. G. Failla told physicians at the meeting of the American Physical Society in Chicago, November 27. The tube is used for the treatment of cancer.

One and one half inches of lead are easily penetrated by the rays from the new tube which was developed by Dr. W. D. Collidge of the General Electric Company. Running at 700,000 volts and five milliamperes, the radiation from the tube, Dr. Failla said, is equivalent to the rays from 600 grams of radium, the total amount that has been isolated in pure form.

Planes from the tropics will probably carry along with the fire extinguishers, spray guns for killing insects. This innovation is to be expected as a result of studies of mosquito transportation by airplanes made by the United States Public Health Service. The Service investigated the possibility of insects getting a free plane ride into the United States and bringing yellow fever with them because the disease still occurs in parts of South America. Under normal average conditions about airports, heavy infestation of airplanes would not be likely, but even one infected mosquito of the yellow fever carrier type might be the means of starting an epidemic. However, considering the small number carried by aircraft and the facility with which planes may be freed from mosquitoes, the investigators concluded that while the danger exists, airplanes can be efficiently treated so as to destroy mosquitoes and thus avoid retardation of air traffic progress. The investigations were made with the cooperation of the Pan American Airways System.

Dr. Alfred Henry, Indianapolis, president of the National Tuberculosis Association, addressed the twenty-fifth annual meeting of the St. Louis Tuberculosis and Health Society on December 3. Dr. Henry regards the present depression period as similar to war times in developing predisposing causes for tuberculosis. He listed the factors as worry, inadequate clothing and insufficient food.

A pediatric division with beds for forty children and eight infants was opened in St. Mary's Hospital, St. Louis, December 7. Children who have been occupying beds in the main part of the building and those in St. Mary's Infirmary were moved to the new department which will become the pediatric teaching unit for the St. Louis University School of Medicine. The division is located on the first floor of the west wing of the hospital with direct access to the private grounds which will be available to small patients.

The department is one of the best equipped and most attractive in the city. It was planned for the care and treatment of infants and children and is decorated in the manner of a nursery rather than as the usual hospital rooms, but without sacrificing any of the efficiency of modern equipment. Every room is furnished in miniature gayly painted furniture including little chairs, tables and desks; the walls are finished in soft two-toned colors and decorated with amusing friezes of free-hand drawings of figures from beloved comics and Mother Goose rhymes. Not the least inviting are the carefully appointed child's dining room and sunny playroom.

The rooms are arranged in wards of from two to six beds with a number of private rooms with bath to accommodate both a small patient and its mother when she desires to stay in the hospital.

The ward for infants has eight cribs. Plate-glass windows line the central corridor making the interior of all the rooms visible without entering them.

Patients with contagious diseases are treated in an isolation division which is entirely separated from the main corridor. It has its own outside entrance and is divided into two parts which can be used either as wards or as private rooms.

An operating room is fully equipped for performing all minor operations and emergency work and the necessary examining room and lockers for physicians and nurses are provided. At the head of the main corridor is a suite of rooms including a reception room, business office and doctor's examining room. The service includes accommodation for free, part-pay and full-pay patients.

The American Board of Ophthalmic Examinations will conduct an examination in New Orleans on May 9, 1932, during the meeting of the American Medical Association. The necessary application blanks may be procured from the secretary, Dr. William H. Wilder, 122 South Michigan Avenue, Chicago, and should be filed with him at least sixty days before the date of the examination.

A campaign to raise a \$50,000 emergency fund for the Christian Hospital, St. Louis, was launched November 23. The hospital was built six years ago and until recently has been self sustaining, but a decrease in pay patients and an increase in charity cases has reduced the income to such an extent that the emergency fund is needed. Charity work done by the hospital during the year ending October 30, 1931, amounted to \$17,450.

The ownership of roentgenograms was legally established for the first time, so far as is known, in the case of Hurley Hospital v. Gage, decided on appeal April 21 by the circuit court for the County of Genesee, Michigan. The case is commented on editorially in the *Journal of the American Medical Association* of November 21. The patient had been roentgenographed in the roentgenographic department of the Hurley Hospital at Flint, Michigan, and the usual charge for the service was included in the patient's bill. A payment was made on account but the patient refused to pay the charge for roentgenographic service unless the roentgenograms were delivered to him. The hospital refused to deliver them and sued the patient for the balance due on the bill. In the justice's court where the suit was instituted judgment was rendered against the hospital. Because of the principle involved, the hospital appealed to the circuit court of Genesee County. At the hearing on the appeal no one appeared on behalf of the patient and the case was heard and judgment rendered without the submission of evidence or argument by him. In passing judgment, the court pointed out that the hospital sold and patients paid not for the material that went into roentgenograms but for the knowledge and experience that enabled the roentgenologist first to produce a roentgenogram and then to interpret the condition disclosed in the picture. The protection of the hospital, said the court, might depend largely on the proper preservation of the roentgenograms and the films should remain with the hospital. Judgment was given against the patient for the balance due on his bill which covered the amount charged by the hospital for the roentgenograms.

Insects have been found by airplane observers as high as 10,000 feet above the earth.

London now has an official who decides each day how much air should be admitted to street cars. Windows are locked in positions so passengers cannot raise or lower them.

Raw cabbage is the most abundant source of vitamin C in modern diet, says a home economics specialist of the University of New Hampshire.

Dr. D. E. Singleton, formerly a member of the medical staff at State Hospital No. 1, Fulton, was recently appointed chief psychiatrist for the United States Public Health Service at the Federal penitentiary in Leavenworth, Kansas.

Dr. H. Warren Crowe, D.M., B.Ch. (Oxon.), M.R.S.C., L.R.C.P. of England, will visit this country for the purpose of lecturing at the Conference on Rheumatism which is to be held at Pittsburgh. Dr. Crowe is the author of "Vaccine Treatment of Chronic Rheumatic Diseases," "The Treatment of Chronic Arthritis and Rheumatism" and "Bacteriology and Surgery of Chronic Arthritis and Rheumatism."

Drs. C. E. Burford, Daniel Sexton and L. Wallace Dean, St. Louis, were guests of the Highland Park Physicians Club at the sixth annual clinic of the club held in Highland Park, Detroit, Michigan, on December 5. Dr. Burford delivered an address on "The Diagnosis and Management of Stone in the Kidney and Ureter." Dr. Dean spoke on "Sinusitis in Children," and Dr. Sexton gave the results of his studies on "Disorders of Hypophysis."

Dr. Harvey J. Howard, St. Louis, has been appointed director of the department for the prevention of blindness of the Missouri Commission for the Blind to succeed Dr. Meyer Wiener, St. Louis, who has resigned. Dr. Howard is professor of ophthalmology in the Washington University School of Medicine and director of the McMillan Eye and Ear Hospital and the Oscar Johnson Institute. Dr. Wiener is clinical professor of ophthalmology in the Washington University School of Medicine and staff member of several hospitals. He resigned his position with the Commission for the Blind because of his other duties and work in preparation of a new book. Dr. Wiener had been connected with the commission since 1926 and established the department for the prevention of blindness in 1929.

About one fourth of all twins are identical twins.

The birth rate in the registration area of the United States has declined from about 24 per 1,000 population in 1921 to less than 19 in 1930.

The Southwest Missouri Medical Society held its fall meeting on November 12 in Springfield. Scientific sessions were held both morning and afternoon, members of the society presenting the morning addresses and guests delivering the addresses in the afternoon session. Dr. H. A. Lowe, Springfield, presided at the banquet following the session. Addresses were delivered at the banquet by Dr. J. F. Harrison, Mexico, president of the State Medical Association; Dr. E. H. Skinner, Kansas City, president of the Jackson County Medical Society, and Dr. C. H. Neilson, St. Louis, associate dean of the St. Louis University School of Medicine.

The seventy-fifth anniversary of the organization of the St. Louis Dental Society was celebrated by a Diamond Jubilee session in St. Louis December 7, 8 and 9. The program was devoted principally to scientific addresses, clinics and exhibits presented by men eminent in their fields. In the memorial feature honor was paid pioneers in dentistry both as a part of the program and by a memorial room where the pictures of the early promoters of scientific dentistry were hung with a sketch of their work appended. Scientific exhibits displayed the most modern scientific instruments and apparatus and in contrast there was displayed the now antiquated equipment used during the period of the development of the science.

Several St. Louis physicians appeared on the scientific program in a division on "Case Reports." The physicians and titles of their addresses were: Dr. J. Barrett Brown, "Benign Tumors of the Jaw"; Dr. W. T. Coughlin, "Tic Douloureux"; Dr. Virgil Loeb, "Unusually Large Salivary Duct Calculus," and Dr. Charles F. Sherwin, "Bone Cysts of the Mandible."

Among the scientific exhibits those by St. Louis physicians were: "Fractures of Jaws and Repair of Single Harelip," by Dr. V. P. Blair; "Splints for the Various Forms of Fractures of the Face and Head," by Drs. W. T. Coughlin and G. C. Smith; "Malignancy of the Mouth," by Drs. Fischel and L. H. Jorstad; "Plastic Casts of the Maxillary, Frontal and Sphenoidal Sinuses," by Dr. Virgil Loeb, and "Natural Color Photographs of Oral Diseases," by Dr. Charles Sherwin.

Glands from 25,000 hogs are sold each week by the Insulin Laboratory, Gentofte, Denmark, and 85 per cent of them enter world trade.

The Chinese National Government expects to issue an official Chinese pharmacopoeia printed in Chinese with the names of drugs in Latin.

Bright blue biscuits and blue cereal may now add variety to the breakfast table as a new coal-tar color known as "Brilliant Blue FCF" has been accepted by the Federal Food and Drug Administration.

Cortin, the life-saving extract of the cortex of the adrenal glands, has been found to have an effect on the nervous system, Professor Frank A. Hartman and Dr. Gilbert Beck of the University of Buffalo reported at the meeting of the Central Neuro-Psychiatric Association which met in Buffalo in October. Dr. Hartman is one of the investigators who recently prepared this glandular hormone which has prolonged life in patients suffering from the once fatal Addison's disease. An entirely new aspect of the function of cortin has been opened by Dr. Hartman's latest investigations, indicating that cortin is important for the proper functioning of the nervous system since the nervous system is quickly fatigued in animals which lack this substance. The reflexes of a normal animal will continue to work for several hours before fatigue stops them but the reflexes of an animal that has had its adrenal glands entirely removed are fatigued in a few minutes upon continued use. This would account for the ready fatigue which occurs in adrenal insufficiency, Dr. Hartman suggested.

The John Scott Medals for 1931 were presented to Professors Philip Drinker and Louis A. Shaw, of the Harvard School of Public Health, at the Franklin Institute in Philadelphia November 18 for their invention of the respirator. Hundreds of infantile paralysis patients were kept alive during last summer and fall by the respirator. The apparatus was developed at the request of the Liability Insurance Fund of the New York Consolidated Gas Company.

At present there are approximately 150 adult type respirators in use in the United States and Canada and one each in London and Copenhagen. In New York City over a hundred cases of respiratory failure not caused by poliomyelitis have been treated with a high percentage of recoveries, the cases including severe carbon monoxide poisoning, drug poisoning, acute alcoholism, drowning and electric

shock. During the last infantile paralysis epidemic over 100 patients were treated with the respirator in the Children's Hospital in Boston and of a total of 180 cases of this disease cared for in the hospital the death rate was only 4.5 per cent.

Professor Drinker described the respirator as follows: "The adult model consists of a sheet metal tank with a movable end. The patient lies on a comfortable bed with his body inside the tank and his head protruding through a loose fitting rubber disc or collar. By means of a suitable pump, a slight negative pressure or partial vacuum is created within the tank causing the patient's chest to expand and air to rush in through his nose and mouth. Pressure within the tank is then raised to that of the room and the patient exhales in a normal manner. The depth and rapidity of the respiratory movements of the patient are under control of the attendant and can be altered at will."

According to previous experience with the diphtheria cycle, this winter will show a distinct upward trend in the number of cases of this disease. Health reports thus far bear out this prediction. For the week ending November 14 there were 2584 cases of the disease reported to the United States Public Health Service in Washington by state health officers all over the country. This is an increase of about 100 cases over the total for the previous week and of nearly 1000 cases over the total for the corresponding week of 1930. Cases of diphtheria in 1931 were fewer than for the three preceding years until the end of August when the figures began to climb and the totals for the country are now higher than they have been for the last three years.

The St. Louis Medical Society began a campaign on August 31, 1931, to educate the public in the prevention of diphtheria. The campaign is to continue three years with intensive periods each spring and fall. Posters, broadcasts and newspaper articles were used intensively during the two-week period in the fall of 1931 and to some extent are being used constantly to convey the information of the preventive value of toxin-antitoxin.

Results of experiments with sodium amytal and sodium rhodanate in the treatment of dementia praecox, manic-depressive and epileptic psychoses were presented by Drs. H. Beckett Lang and John A. Patterson, Willard, New York, at the meeting of the National Academy of Science in November at Yale University.

Forty-six cases of serious mental disorders

were first given sodium amytal by mouth and then sodium rhodanate for a period of days. This was done to test the theory advanced last spring by Drs. Wilder D. Bancroft and G. H. Richter of Cornell University that mental functional disorders are oftentimes due to the brain protein substances being either too thick or too thin. The amytal was used to coagulate and the rhodanate to disperse the nerve colloids. All but eight of the forty-six patients responded favorably to one or the other of the drugs although the tests were made as a check on the theory rather than to develop new methods of treating the mental diseases. Details of the cases were presented to the academy by Drs. Lang and Patterson. It was concluded from the experiments that in schizophrenia and the characteristic stupor of catatonia the colloids of the brain are in a state of overdepression, and in manic-depressive psychoses and a newly recognized state of benign stupor, the colloids are agglomerated. The experimenters expect the new method to be useful in diagnosis of mental ills as well as in the treatment.

If one is a smoker one's breakfast orange does not have the sour tang that it would have if one had foregone the use of tobacco. Likewise pickles are not so sour, and the acid of souring milk is not so readily detected. This effect of tobacco on the individual's organ of taste was discovered at the psychological laboratories of the Catholic University of America, Washington, D. C., the experiments being performed under the direction of Dr. J. Edward Rauth, Washington.

The original purpose of the investigation was to discover the very weakest concentration of various common acids that could be detected by the human tongue. The acids used were acetic, citric, lactic, hydrochloric, nitric and sulphuric. Solutions of all these were prepared so that there would be a wide range in intensity of the acid. During the course of the experiments it became evident that the persons experimented on were falling into two groups one of which could detect far weaker solutions than the other, the only exception being with sulphuric acid. One group, it was found, contained the smokers; the other, those who had either never smoked at all or who had smoked very little during the previous seven years. The investigators believed that the astringent quality of the sulphuric acid rather than the taste was detected by the first group.

Further experiments are planned by Dr. Rauth to determine the cause of this curious effect of tobacco on taste. One theory is that the nicotine, or some other constituent of to-

bacco, acts on the nerves connected with the organ of taste. Another theory advanced is that the epidermis over the taste organ becomes thickened through the use of tobacco so that acid solutions cannot so easily penetrate to the sensitive parts.

Ten members of the St. Louis Medical Society who have practiced for fifty or more years were honored by a Golden Jubilee session of the Society November 24. The occasion was a testimonial to Drs. Carl Barck, J. A. Dickson, Willis Hall, E. F. Hauck, Louis Hauck, H. G. Mudd, Amand Ravold, Max C. Starkloff and H. L. Wolfner, St. Louis, and H. J. Harnisch, Flagstaff, Arizona. Dr. Harnisch has resided in Flagstaff for several years but has retained his membership in the Society in St. Louis where he began and until recently maintained his practice. A reunion of the Washington University Medical School classes of 1880 and 1881 preceded the Society meeting; five of the honorees are members of the class of 1881 and two of the class of 1880.

Dr. Alphonse M. Schwitalla, dean of the St. Louis University School of Medicine, in addressing the Society, eulogized the honorees and spoke of the work accomplished by them. "These men stand for service, sacrifice and science," said Father Schwitalla. "Their pathway has been marked by the gratitude of the men they have served. In every way they have fulfilled the traditional obligations of Hippocrates which they took with throbbing hearts a half century ago."

Dr. Robert J. Terry, professor of anatomy in the Washington University School of Medicine, spoke on "Contributors to Medicine," outlining not only the contributions of the honorees but of others whose attainments have played a part in the great advance of medical science in the last fifty years.

Dr. Amand Ravold "looked back" on "fifty years that advanced medicine more than any fifty centuries" had done and gave "Brief Sketches of a Few St. Louis Physicians."

Half-truths in the advertising of the vitamin content of foods are very likely to mislead the public, Prof. H. C. Sherman, of Columbia University and authority on vitamins, warned members of the Association of Official Agricultural Chemists at a meeting in Washington, D. C., in November.

So-called "vitamin rich" foods, said Prof. Sherman, may actually be grossly lacking in the vitamins A, C and G, the ones necessary to maintaining a buoyant state of health though containing enough of vitamins B, E and D. Official chemists, he said, must undertake the

problem of measuring the amount of each and all of the six or more chemically different substances in foodstuffs if they are to guard properly the nation's food supply.

Commercial irradiation of foods with ultra-violet light, so widely advertised, increases the amount of vitamin D only and it is here, he said, that "we are most likely to meet the problem of what constitutes proper advertising of vitamin value in food." Milk to which irradiated yeast rich in vitamin D has been added may properly be advertised as superior in its vitamin value as milk itself is at all times a good source of all the other known vitamins, but this is not true of a food which is deficient in several of the vitamins.

Enough of a vitamin merely to prevent actual deficiency disease, Prof. Sherman pointed out, is not a satisfactory standard for the American people. They need enough vitamins to enable them to do their best. Substitutes for milk or egg fat in manufactured food and imitation fruit juices were among the preparations mentioned by Dr. Sherman as preventing the attainment of optimum vitamin content in the American diet.

A story of the part played by E. R. Squibb & Sons in the prolongation of human life, the promotion of health and the curtailment of disease appears in the October issue of *World's Work* under the title "The Story of the House of Squibb." The article gives the history of the founding and the growth of the company. Dr. Edward R. Squibb, the founder, was graduated in medicine from Jefferson Medical College, Philadelphia, in 1845, his medical studies beginning after five years of apprenticeship to a pharmacist. Although Dr. Squibb had been much interested while in college in the establishment of higher standards of purity and uniformity of drugs he wanted to be a surgeon. When the Mexican War began in 1847 he was appointed an assistant surgeon in the Navy but was soon assigned to the ship's store where his interest was again aroused in drugs.

His first effort in purification of drugs was with ether, then followed work with chloroform and other drugs. In 1852 Dr. Squibb was assigned to the Brooklyn Naval Hospital to organize a laboratory but commercial opposition developed and political maneuvers killed the Congressional appropriation for the Naval Laboratory. Dr. Squibb then established a plant of his own for the manufacture of ether but it was not a very successful venture and a year later he established the "House of Squibb" in Brooklyn. After the death of the founder in 1900 the business was carried on by his two sons until 1905 when Theodore Weick-

er, a German chemist and pharmacist of recognized ability, and Lowell M. Palmer, a capitalist, bought the company. At the death of Mr. Palmer in 1919 his son, Carleton H. Palmer, entered the business.

Many milestones mark the progress of the company, such as the inauguration of periodicals giving the physician information about drugs, the establishment of the biological and research laboratories, the advertising to the lay public of professionally endorsed products and the Squibb Plan Incorporated which makes the retailer a participant in the company.

As an outstanding piece of advertising and as exemplifying the principles for which the company stands, *World's Work* quotes an advertisement appearing early in the campaign to the lay public conducted by E. R. Squibb & Sons. The text follows:

"In the City of Bagdad lived Hakeem, the Wise One, and many people went to him for counsel, which he gave freely to all, asking nothing in return.

"There came to him a young man who had spent much but got little, and said: 'Tell me, Wise One, what shall I do to receive the most for that which I spend?'

"Hakeem answered: 'A thing which is bought or sold has no value unless it contains that which cannot be bought or sold. Look for the Priceless Ingredient.'

"'But what is the Priceless Ingredient?' asked the young man.

"Spoke then the Wise One: 'My Son, the Priceless Ingredient of every product in the market place is the Honor and Integrity of him who makes it. Consider his name before you buy.'"

The St. Louis Trudeau Club will hold its next meeting on Thursday, January 7, at 8:15 p. m. in the St. Louis Medical Society building, 3839 Lindell Blvd. The scientific program follows:

"Bilateral Apical Thoracoplasty for Bilateral Pulmonary Tuberculosis." Presentation of Case. Drs. G. D. Kettelkamp and Duff S. Allen.

"Foreign Body in the Lung." Presentation of the Case With Some Remarks on the Treatment of Hemothorax. Dr. Duff S. Allen.

"The Innervation of the Lung." Dr. Peter Heinbecker.

"Pneumoconiosis." Dr. Fauntleroy Flinn, Decatur, Illinois.

Dr. Flinn, an eminent radiologist, has had an unusual experience with pneumoconiosis; his paper will hold considerable interest for all. Members of the Medical Society are cordially invited to attend.

Dr. Charles E. Hyndman, St. Louis, president of the St. Louis Medical Society and chairman of the Defense Committee of the State Medical Association, was the guest of a joint meeting of the Jackson County Medical Society, the Kansas City Southwest Clinical Society and the Kansas City Bar Association held in the Jackson County Medical Society auditorium, Kansas City, November 10, 1931.

Presiding jointly with Dr. E. H. Skinner, Kansas City, president of the Jackson County Medical Society, was Honorable T. J. Madden, Kansas City, president of the Kansas City Bar Association.

The session was devoted to a consideration of various phases of malpractice suits against physicians. The program included the following talks: "Some Observations of the Causes of Medical Malpractice Suits," Dr. Hermon S. Major, Kansas City. "The Functions and Activities of the Medical Defense Committee of the Missouri State Medical Association," Dr. Charles E. Hyndman, St. Louis. "Professional Problems," Honorable David M. Proctor, Kansas City, and "Progressive Methods as Applied to County Medical Societies," Dr. Henry H. Tihen, Wichita, Kansas.

The Honorable Mr. Proctor, former state senator from Jackson County, pointed out many parallels of unwelcome activities within the legal and medical professions. The Bar Association, he said, had to contend with banks, trust companies and similar organizations who undertake to perform certain legal services that properly belong to the practicing attorney while the medical profession must contend with corporation practice and other group practice that diverts patients from the individual practitioner. The two professions also both have blots on their escutcheons—the ambulance chasing shyster in the legal fraternity and the ballyhooing quack in the medical fraternity.

Dr. Hyndman made it plain to the audience that the Medical Defense Committee of the Missouri State Medical Association was not formed for the purpose of covering up blunders, mistakes and errors of members but purely and solely for the protection from unjustifiable attacks of members who had performed good service. Most of the malpractice suits against physicians are prompted by selfish motives and involve either an attempt to avoid payment of a bill or to squeeze a few dollars out of a doctor who would rather pay a small sum of money than defend his actions in court.

The proceedings brought some very interesting discussion from Judge T. J. Madden, Judge Ben Terte and Judge A. Stanford Lyon who expressed considerable admiration for the or-

ganizational activities of the Missouri State Medical Association.

Dr. Hyndman was elected a member of the Defense Committee in 1919 and has been chairman of the committee since 1921.

The December Clinic of the Kansas City Southwest Clinical Society was presented at the Kansas City General Hospital December 8 at a joint meeting with the Kansas City Obstetrical and Gynecological Society. More than a hundred physicians attended the meeting.

The morning was devoted principally to an obstetrical symposium with lectures, case reports and presentation of patients. One of the outstanding features of the morning clinic was a cesarean section performed by Dr. M. A. Hanna, Kansas City, with Dr. Q. U. Newell, St. Louis, the distinguished guest speaker, giving a didactic description of such cases while Dr. Hanna was performing the operation. Then Dr. Newell held the audience spellbound for a short time while he demonstrated in his unexcitable manner the resuscitation of the new-born babe. Dr. Newell was the guest of the Jackson County Medical Society in the evening and delivered an address on "Five-Year End-Results in the Treatment of Carcinoma of the Uterine Cervix."

Dr. Morris Fishbein, Chicago, concluded the morning program of the Clinic with a most interesting discussion on "Change in the Methods of Medical Practice." He emphasized especially the difference in the demands of the patients of today and those of yesteryear as well as the vast improvement in facilities, equipment and the possibilities of the trained specialist of today over the methods of procedure available to the general practitioner of years ago. Dr. Fishbein addressed a public meeting under the auspices of the Kansas City University Extension Center while in Kansas City. He spoke on "Fads and Quackery in Medicine." Dr. Fishbein is one of eight speakers presented during the 1931-1932 season by the University Extension Center.

The January Clinic will be held at Research Hospital on January 12. The entire morning will be devoted to lectures on conditions of the chest and demonstration of cases which will include bronchoscopic, surgical and roentgen ray treatment of chest diseases. The distinguished guest, Dr. Wm. Shainline Middleton, associate professor of medicine, University of Wisconsin Medical School, has chosen for his subject, "The Treatment of Pneumonia."

An added feature of this Clinic will be a round-table conference immediately after luncheon. At this conference an opportunity will be given every one to present for informal

discussion the problems he meets in the various fields of medicine and surgery.

Dr. Middleton will be the guest of the Jackson County Medical Society in the evening of January 12 and deliver an address on "Luetic Aortitis."

OBITUARY

AMBROSE ELISHA POTTER, M.D.

Dr. A. E. Potter, Springfield, a graduate of the St. Louis College of Physicians and Surgeons, 1911, died September 1, 1931, in the Springfield Baptist Hospital as a result of an automobile accident. He was 45 years old.

Dr. Potter was born in Christian County, Missouri, near McCracken. He practiced for a number of years as a country physician at Bois D'Arc and other small towns in the Ozarks before locating in Springfield six years ago. He practiced for a year and a half in Las Vegas, New Mexico. Even after moving to Springfield he maintained a large practice at Bois D'Arc and Strafford and his patients were never too far away nor too poor to obtain his aid no matter what the hour. He was answering a call from a patient at Bois D'Arc at the time of the accident. He was a worthy member of the Greene County Medical Society.

Dr. Potter did obstetric and general practice and during his twenty years of practice had delivered more than 1500 babies.

During the World War Dr. Potter served with distinction in the medical department at Camp McArthur, Waco, Texas.

Dr. Potter was well loved in his city and in the countryside about. He was a plain-spoken, tireless worker, ever ready to render service against any odds. He was a man who made friends wherever he went.

He is survived by his widow, Mrs. Rose Rathbone Potter, three sisters and his father.

CHARLES C. CUMMINGS, M.D.

Dr. Charles C. Cummings, Joplin, a graduate of Rush Medical College, 1897, died at his home November 28 of a heart attack. He had been in ill health for about eighteen months but attended to his practice until three weeks preceding his death. He was 65 years old.

Dr. Cummings was born in Oakland, Indiana. He received his preliminary education and began his medical studies at the Jefferson Medical College, Philadelphia, but completed his medical work at Rush Medical College. After an internship at St. Mary's Hospital in Evanston, Illinois, he began his practice in Joplin. In his early practice he did a great deal of work with the miners in the vicinity and many stories

of heroic behavior in rescue work and treatment of injured miners are told.

Dr. Cummings was one of the principal organizers of the Jasper County Medical Society of which he was a past president. He was a member of the State Medical Association and a delegate to the Annual Meeting in 1929. He was a Fellow of the American Medical Association and was secretary of the Joplin Academy of Medicine.

He was widely known and highly esteemed both as a physician and as a surgeon. Besides his active medical career, Dr. Cummings was interested in civic affairs and philanthropic work. He aided many agencies in their service to the poor. He was a Scottish Rite and Blue Lodge Mason active in local lodges. He had served on the city library board and was a member of the First Community Church.

Surviving him are his widow, Mrs. Ruth Kraft Cummings, a son, two brothers and a sister.

The following resolutions on the death of Dr. Cummings were adopted by the Jasper County Medical Society.

Resolutions

WHEREAS, It has pleased the Great Author of the Universe to remove from our midst Dr. Charles C. Cummings, be it

Resolved, That in his being taken away this Society has lost an honored member and the community a progressive and high-minded citizen, and be it

Resolved, That we express our sympathy to the family and direct that a copy of these resolutions be spread on the minutes of the Society and a copy sent the family of Dr. Cummings.

S. H. MILLER,

K. B. HUFFMAN,

R. M. JAMES,

Committee.

STEPHEN GROVER BURNETT, M.D.

Dr. S. Grover Burnett, Kansas City, a graduate of the Kansas City Medical College in 1885 and of the New York University Medical College New York, in 1886, died September 11, aged 69.

Dr. Burnett was born in Terre Haute, Indiana. He began his medical practice in Kansas City in 1890 and was an active member of organized medicine. He was a member of the Jackson County Medical Society, the State Medical Association, the American Neurological Society, a Fellow of the American Medical Association, a former president of the Missouri Valley Medical Society, a member of the New York Academy of Medicine and a charter member of the Kansas City Academy of Medicine. He was elected an Honor Member of his county medical society in 1927.

For fourteen years Dr. Burnett conducted the Burnett Sanitarium which was located at

Thirty-first and Euclid avenues. Dr. Burnett was president of the former University Medical College of Kansas City and was professor of clinical neurology in that institution. For a number of years he had restricted his practice to consultant neurologist, psychiatrist and alienist.

Dr. Burnett was well known and highly esteemed by his colleagues and by a large group of lay friends and his death was widely mourned. He is survived by his widow.

JOEL Y. HUME, M.D.

Dr. Joel Y. Hume, Auxvasse, a graduate of the Washington University School of Medicine, 1879, died of cardiac deficiency August 22, 1931, in Callaway County Hospital, Fulton, after an illness of two weeks. He was 79 years of age.

Dr. Hume was born in Howard County near Glasgow and practiced in Armstrong in Howard County before locating in Auxvasse eighty-eight years ago.

Dr. Hume aligned early with organized medicine and was always an active worker. He was president of the Callaway County Medical Society in 1929. He had practiced medicine for fifty-three years and during these long years of service to humanity he had never found a time when he thought he could leave his practice for a vacation. He was loved by his patients, his very presence in a sick room being soothing, and also loved by the people in his community. He was a member of the Christian Church with which he had been affiliated for thirty years and was a member of the Masonic order for more than fifty years. Of Dr. Hume's death the *Auxvasse Review* says, "He was kind and gentle and we doubt if there is another person in Auxvasse who could be missed more than this fine old physician and friend."

Dr. Hume is survived by his widow, Mrs. Fannie Walker Hume, one daughter, three brothers and one sister.

SPIER RICHMOND, M.D.

Dr. Spier Richmond, Branson, a graduate of the Ensworth Medical College, St. Joseph, 1891, died at his home November 15, aged 64.

Dr. Richmond was born in Abbeville, South Carolina, but went to St. Joseph in his youth and received his preliminary and medical education there. He practiced in St. Joseph from 1891 to 1905 being coroner of Buchanan County from 1896 to 1900. In 1905 Dr. Richmond moved to Kansas City where he practiced until 1922, at that time going to Branson. He remained in practice in Branson through the re-

mainder of his life. Dr. Richmond was a member of the Taney County Medical Society.

Dr. Richmond was loved by all who knew him and many friends whom he had made during his career mourn his death. Burial was in St. Joseph.

He is survived by his widow, Mrs. Maggie Gates Richmond, a son and three brothers.

MISCELLANY

RADIO TRANQUILLITY ENDANGERED

A particularly disturbing threat against radio stability and all that stability means to broadcasting and reception is to be found in the position taken by the Republic of Mexico when it licensed a powerful station located just within its northern border without consideration for the chaos the permit in question and other permits which may follow will bring to orderly broadcasting, particularly in the United States where orderly broadcasting was achieved only after many difficulties were overcome.

The example of particular irritation to this country is the licensing of a 75,000-watt station at Villa Acuna, Mexico, opposite Del Rio, Texas, on a mid-channel of the 10-kilocycle separation customary for stations operating on adjacent wave lengths in the United States and Canada. Nor is the irritation softened by the fact that the station of license, XER, was erected and will be used by Dr. John R. Brinkley, Kansas "goat gland specialist" whose station at Milford, Kansas, was sold last year when the Federal Radio Commission refused to renew his Kansas license and the action upheld by a ruling of a District of Columbia Court. In addition to this Federal action, the Kansas Medical Board revoked a certificate authorizing Dr. Brinkley to practice medicine or surgery in the state. He was off the air, nationally, and out of practice in Kansas.

But there remained Mexico. And to Mexico Dr. Brinkley journeyed with the result that he was given broadcast license over the protests of the American Radio Commission handed on to the Mexican Ministry of Communications by the Washington State Department. Brinkley is on the air again giving his personal messages by remote wire control from Milford, Kansas, to broadcasting mechanism just across the border and back to the United States by air. This is the first case of bootlegging by air to come to popular attention, it is believed; a circuitous route to which the Mexican Government should not give support.

It must be as obvious to the Mexican Ministry of Communications as it is to the Washington Radio Commission that this is getting around American regulations of the air and American attempt to support the ethics of the medical profession by subterfuge and that playing loosely with the co-operative attempts of the United States and Canada to bring order to radio communication by agreement will not contribute to national amity. Especially so when Mexico has been urged from time to time to participate with the United States and Canada when orderly air allotments were under discussion and has ignored the invitation.

Before Mexico extends its system of air license, it should consider well the national resentment that must follow.—St. Louis *Globe-Democrat*, November 24, 1931.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL FOR 1932

(UNDER THIS HEAD WE LIST SOCIETIES WHICH
HAVE PAID DUES FOR ALL THEIR MEMBERS)

HONOR ROLL

Ste. Genevieve County Medical Society,
December 16, 1931.

JOINT MEETING OF THE CHARITON AND LINN COUNTIES MEDICAL SOCIETY

The Chariton County Medical Society and the Linn County Medical Society held a joint meeting in Salisbury, December 17, at the Commercial Hotel. The meeting was preceded by an elaborate dinner that was enjoyed by all.

The scientific program was a most instructive and interesting presentation. The speakers were sent to us by the Postgraduate Committee of the State Medical Association. The program follows:

"Postpartum Hemorrhage," illustrated with lantern slides, by Dr. F. V. Emmert, St. Louis.

"The Child in Medical Practice," by Dr. Paul J. Zentay, St. Louis.

The officers for Chariton County Medical Society were elected for the ensuing year as follows: President, Dr. Florian Harms, Salisbury; vice president, Dr. O. H. Damron, Keytesville; secretary-treasurer, Dr. G. W. Hawkins, Salisbury.

Our meeting was a grand success. I know the speakers sent by the Postgraduate Committee were well received and I feel that the members enjoyed the session as they so expressed themselves after adjournment. Every one who heard these splendid addresses felt that he had gained considerable information on the subjects presented.

The following guests and members were present: Drs. F. V. Emmert and Paul J. Zentay, St. Louis; W. B. Kitchen, Glasgow; O. K. McGee, T. S. Fleming, R. D. Streeter and P. C. Davis, of Moberly; F. W. Burke, Laclede; M. L. Diekroger, Bucklin; P. L. Patrick and Ola Putman, of Marcelline; E. D. Stanley and J. Lane Evans, of Brookfield; E. F. Wier, Meadville; Dr. Dixon, Linneus; A. W. Zillman and O. H. Damron, of Keytesville; J. D. McAdam, Prairie Hill; W. B. Lucas, Mendon; H. E. Tatum, Brunswick; W. O. Hawkinson, Roanoke; R. P. Price, Triplett; Wm. M. Fellows, Danville, Ill.; D. H. Miller, F. L. Harms and G. W. Hawkins, of Salisbury.

G. W. HAWKINS, M.D., Secretary.

GREENE COUNTY MEDICAL SOCIETY

The regular meeting of the Greene County Medical Society was held Friday night, December 11, in the Springfield Public Library. The president, Dr. O. C. Horst, Springfield, presided. There were sixty members present and the following visitors: Drs. H. J. Wise, Sparta; Drs. R. R. Farthing and J. H. Wade, of Ozark; Dr. W. A. Atkins, Rogersville; Drs. V. H. Greenwood and C. O. Gammon, of Bufalo; Dr. F. H. Brown, Billings, and Dr. J. B. Stokes, Mt. Vernon. The minutes of the previous meeting were read and approved.

The following officers were elected to serve during the year 1932: President, Dr. U. J. Busiek, Springfield; vice president, Dr. J. H. Fulbright, Springfield; secretary, Dr. J. Newton Wakeman, Springfield (reelected); treasurer, Dr. W. E. Handley, Springfield; delegate, Dr. H. A. Lowe, Springfield; alternate, Dr. T. O. Klingner, Springfield; censor, Dr. A. L. Anderson, Springfield.

J. NEWTON WAKEMAN, M.D., Secretary.

GASCONADE-MARIES-OSAGE COUNTY MEDICAL SOCIETY

The Gasconade-Maries-Osage County Medical Society met in the Riverview Hotel, Mount Sterling, November 19. A bounteous six o'clock dinner preceded the session. Sixteen physicians, one nurse and one technician were present. We were much pleased to note two Jefferson City physicians among the guests.

The scientific program consisted of two papers by St. Louis physicians, Drs. C. H. Shutt and Fred C. Simon, who were sent to us through the courtesy of the Postgraduate Committee of the State Medical Association.

Dr. Simon gave a wonderful lecture on "Carcinoma of the Accessory Nasal Sinuses."

Dr. Shutt read a highly instructive paper on "Gallbladder Disease."

A business session followed the scientific program and the following officers were elected: President, Dr. M. E. Spurgeon, Red Bird; secretary-treasurer, Dr. O. H. Jones, Vienna; delegate, Dr. M. E. Spurgeon, Red Bird; alternate, Dr. John H. Baehr, Hermann.

M. E. SPURGEON, M.D., Secretary.

JASPER COUNTY MEDICAL SOCIETY

The Jasper County Medical Society met at Joplin, November 17, with eight members and one visitor present. The president, Dr. L. C. Chenoweth, Joplin, presided.

The president announced that on the evening of November 18 the Woman's Auxiliary would entertain the members of the Society.

Case reports were given by Drs. James, Clark and Grantham.

Meeting of December 1

There were twenty-four members present at this meeting.

The secretary reported that Dr. Lawrence D. Thompson, of St. Louis, had accepted the invitation to be our guest speaker at our public meeting on January 5.

On motion, seconded and carried, it was decided that the annual installation of officers be held at the public meeting. The committee on arrangements appointed by the president consists of Drs. Baxter, Blanke and Clark, of Joplin.

The secretary called attention to the offer of Davis & Geck to furnish medical films. The secretary was instructed to secure a film to be shown at a convenient date.

The president appointed Drs. S. H. Miller, K. B. Huffman and R. M. James, of Joplin, as a committee to draft resolutions on the death of Dr. C. C. Cummings.

Dr. R. M. James, Joplin, moved that \$10 be sent to the poor fund instead of a floral offering to Dr. Cummings, as requested by Mrs. Cummings.

Dr. M. O. Coombs, Joplin, reported for the library committee.

Dr. B. E. DeTar, Joplin, reminded the members of the first postgraduate course to be held at the Freeman Hospital, December 4.

The annual election of officers resulted in the following being elected: President, Dr. Jesse E. Douglass, Webb City; vice president, Dr. E. D. James, Joplin; secretary, Dr. O. T. Blanke, Joplin, (reelected); treasurer, Dr. H. D. McGaughey, Joplin. Delegate, Dr. L. B. Clinton, Carthage; alternate, Dr. A. B. Clark, Joplin. Delegate, Dr. L. C. Chenoweth, Joplin; alternate, Dr. J. W. Barson, Joplin. Dr. M. O. Coombs, Joplin, was elected a member of the board of censors to take the place of Dr. Jesse E. Douglass.

Dr. H. L. Wilbur, Joplin, reported a case of apparent encephalitis with secondary mild abdominal symptoms which on autopsy proved to be a mesentery abscess.

Dr. L. B. Clinton, Carthage, reported two similar cases where mental symptoms predominated, one of which recovered.

Meeting of December 8

The meeting was called to order with twelve members present.

The secretary read the following resolutions on the death of Dr. C. C. Cummings, Joplin, as drafted by the committee:

Resolutions

WHEREAS, It has pleased the Great Author of the Universe to remove from our midst Dr. Charles C. Cummings, be it

Resolved, That in his being taken away this Society has lost an honored member and the community a progressive and high-minded citizen, and be it

Resolved, That we express our sympathy to the family and direct that a copy of these resolutions be spread on the minutes of the Society and a copy sent to the family of Dr. Cummings.

S. H. MILLER,
K. B. HUFFMAN,
R. M. JAMES,
Committee.

On motion the resolutions were adopted by the Society.

Several case reports were given resulting principally in a discussion of blood pressure, albuminuria, and nephritis.

O. T. BLANKE, M.D., Secretary.

LIVINGSTON COUNTY MEDICAL SOCIETY

The Livingston County Medical Society met jointly with the Woman's Auxiliary at Chillicothe on Thursday evening, November 12. A banquet preceded the business meeting.

The members voted to hyphenate with the Caldwell County Medical Society. During the discussion members of both societies expressed a feeling of considerable satisfaction with the outlook for the activities of the combined societies. The name of the new society will be the Caldwell-Livingston County Medical Society.

DONALD M. DOWELL, M.D., Secretary.

PIKE COUNTY MEDICAL SOCIETY

The regular meeting of the Pike County Medical Society was held September 1 at 8:00 p. m. in the assembly room of the Pike County Hospital, Louisiana. The president, Dr. E. M. Bartlett, Clarksville, presided. The minutes of the June meeting were read and approved.

It was proposed that the Society hold quarterly meetings instead of monthly meetings and have special programs by out of town speakers and special papers or case reports by members of the Society.

The question was favorably discussed by Dr. J. W. Crewdson, Louisiana. Dr. C. P. Lewellen, Louisiana, expressed the opinion that our Society should be maintained as the Pike County Medical Society alone; that we should meet to discuss our own problems, and that members should prepare and deliver papers, rotating in order. The matter was tabled and will be further discussed and voted on at the next meeting. Further consideration of the question was postponed until the next meeting.

Dr. C. P. Lewellen, Louisiana, described an interesting case of diabetes mellitus in a child. The form of treatment was discussed.

Dr. J. W. Crewdson, Louisiana, described a present case in his own practice now in the hospital which he diagnosed postpartum streptococcal endometritis and septicemia (with positive Streptococcus hemolyticus blood culture), the symptoms of which developed two weeks after an easy delivery in the hospital. The patient was a multipara with a history of a stormy pregnancy period due to hyperemesis gravidarum which persisted until two weeks prior to delivery. The patient recovered.

Dr. E. M. Bartlett, Clarksville, described the case of a negro woman, aged 24, with an extensive carbolic acid burn of right forearm. Following healing of the burn a series of herpetic ulcers appeared on the arm and later on one foot. On the theory of a possible luetic infection as the cause of the ulcers, bismuth injections were resorted to. Recovery occurred in three months.

Following adjournment refreshments were served by Miss Hornback and several of her nursing staff.

Members present: Drs. R. L. Andrae, M. O. Biggs, J. W. Crewdson, C. P. Lewellen and D. M. Pearson, of Louisiana; Dr. E. M. Bartlett, Clarksville.

Meeting of October 6

The Society met at the Pike County Hospital, Louisiana, October 6 at 8:00 p. m., President Bartlett presiding. Dr. C. P. Lewellen, Louisiana, acted as secretary in the absence of Dr. R. L. Andrae, Louisiana, who is recovering from an illness.

The question of changing the Society meetings from monthly to quarterly, which was tabled at the previous meeting, was taken up and discussed. Dr. J. W. Crewdson, Louisiana, moved that the Society change its meetings from monthly to quarterly during the coming year. The motion was seconded by Dr. E. A. Cunningham, Louisiana, and carried.

It was decided that the December meeting be held on December 8 and that a special program and dinner be arranged and the physicians of surrounding counties be invited. The president appointed Drs. J. W. Crewdson, E. A. Cunningham and R. L. Andrae, of Louisiana, as the committee on arrangements.

Dr. E. A. Cunningham, Louisiana, reported on the recent meeting of the Lee County (Iowa) Medical Society at Fort Madison, Iowa, which he attended in company with Dr. C. P. Lewellen, Dr. D. M. Pearson and Miss Dorothy Curtiss, hospital technician. Dr. Cunningham read abstracts of three of the outstanding papers presented at the meeting, namely, "Appendicitis," "Forceps Delivery" and "Injuries to the Knee Joint."

Following adjournment refreshments were served by Miss Hornback and her nursing staff.

Members present: Drs. M. O. Biggs, J. W. Crewdson, E. A. Cunningham, C. P. Lewellen and C. D. Scott, of Louisiana, and Dr. E. M. Bartlett, Clarksville.

ROBERT L. ANDRAE, M.D., Secretary.

NODAWAY COUNTY MEDICAL SOCIETY

The regular monthly meeting of the Nodaway County Medical Society was held Friday, November 13, in the first floor lecture room of the St. Francis Hospital, Maryville. Dr. K. C. Cummins, Maryville, president, called the meeting to order at 7:45 p. m. with the following members present: Drs. C. T. Bell, K. C. Cummins, L. E. Dean, C. V. Martin, R. C. Person, Jack Rowlett, and Wm. M. Wallis, Jr., of Maryville; Dr. W. M. Hindman, Burlington Junction; Dr. C. D. Humbert, Barnard. Guests: Drs. R. M. Isenberger and Robert Koritschoner and Mr. James Rice, of Kansas City; Dr. W. T. Elam, Councilor of the Second District, and Dr. Floyd H. Spencer, of St. Joseph; Dr. Hiram Day, Maryville; Drs. Earl Braniger, Roy V. Canon, Jesse Miller and W. B. Owen, dentists of Maryville; Dr. Ed. Miller, dentist of Hopkins; Mr. M. W. Wilson, M.S., professor of chemistry, Northwest Missouri State Teachers College, Maryville.

The scientific program was given by the guests from Kansas City who had come as lecturers through the courtesy of the Postgraduate Committee of the State Association.

Mr. Rice, who is instructor in organic chemistry at the Kansas City Junior College, presented a carefully prepared paper on "The Basic Chemistry of Local Anesthetics." He reviewed the structural formula of cocaine, and traced the relationship of a number of the modern synthetics to this parent formula. By request he gave especial attention to the various concepts and theories of the actual mechanism by which a local anesthetic action is accomplished. Mr. Rice favors Bancroft's ideas of a coagulant physio-chemical reaction in the protoplasmic colloidal gel of sensory nerve fibers. Mr. Rice's remarks show the results of his exceptional training in chemistry, and in this field he has the happy faculty of keeping the practitioner's requirements in mind.

Dr. Isenberger, who is associate professor of pharmacology in the University of Kansas Medical School, fulfilled a "return engagement," since he had been the Society's essayist at its meeting of March 14, 1930. Dr. Isenberger read a very practical and valuable paper on "The Actions, Dangers, and Uses of Local Anesthetics." His lecture was illustrated with lantern slides of kymographic tracings from laboratory experiments on the toxicology of procaine, in particular, and he gave especial attention to the intravenous use of the soluble barbital derivatives as antidotes in untoward toxic actions of procaine and the related local anesthetics.

Dr. Koritschoner, pathologist to Menorah Hospital, gave an able discussion of "The Theories of the Etiology of Neoplasms." In addition to a review of the three most popular older theories, he gave a careful summary of the latest ideas which have come out from Abderhalden's laboratory. He followed this exposition with a plea for more biopsies and earlier and more energetic surgical treatment of all suspected malignancies as being the most efficient measure which medicine has to offer against this great problem today.

All of these papers were discussed, and personal views and experiences were added by Drs. W. T. Elam and F. H. Spencer, of St. Joseph.

The meeting adjourned at 10:50 p. m.

Most of those in attendance extended the discussions for another hour at luncheon in the Puritan Cafe.

CHAS. D. HUMBERT, M.D., Secretary.

ST. FRANCOIS-IRON-MADISON COUNTY MEDICAL SOCIETY

The St. Francois-Iron-Madison County Medical Society met at the Arcadia Valley Hospital, Ironton, October 18, with twenty members present.

Following a short business meeting we were favored with a program by Drs. Frank J. Tainter and Paul S. Lowenstein, of St. Louis. These speakers were sent to us by the Postgraduate Committee of the State Medical Association.

Dr. Tainter gave a very interesting and instructive talk on "The Diagnosis of Acute Abdominal Conditions." In a very able manner Dr. Tainter stressed many points of differential diagnosis. This subject was discussed at length by Dr. George Gay, Ironton.

"The Injection Treatment of Varicose Veins" was described thoroughly by Dr. Lowenstein. This being a comparatively new subject to most of the members, Dr. Lowenstein was called upon to answer numerous questions.

Meeting of November 30

The Society met with Dr. Dailey Appleberry at Rivermines, Monday, November 30.

The application for membership of Dr. Long, of Farmington, was reported favorably by the board of censors and Dr. Long was unanimously elected as a member.

Through the courtesy of the Postgraduate Committee of the State Association we had as our guests Drs. J. Albert Key and French K. Hansel, of St. Louis.

Dr. Key read a paper on "Osteomyelitis" and gave a clear presentation of the diagnosis and treatment of the disease. He emphasized particularly the difficulties of making an early diagnosis and at the same time stressed its importance.

Dr. Hansel's subject was "The Relation of Allergy to Nose and Throat Conditions and to General Medicine." In a comprehensive talk he discussed the many clinical manifestations of allergy.

Both speakers were called upon to answer a number of questions. Every member present felt that he had spent a very profitable evening.

VAN W. TAYLOR, M.D., Secretary.

ST. LOUIS COUNTY MEDICAL SOCIETY

The regular meeting of the St. Louis County Medical Society was held at the St. Louis County Hospital, October 14, at 2:30 p. m. The minutes of the previous meeting were read and approved.

Dr. O. P. Hampton, Jr., St. Louis County Hospital, was elected a member by transfer from the Memphis and Shelby Counties (Tennessee) Medical Society.

The application of Dr. Chester A. Poe, St. Louis, was read and approved by the board of censors and Dr. Poe was elected to membership.

A communication from the American Society for the Control of Cancer was read by the secretary.

For the scientific program, Dr. John H. Armstrong, Kirkwood, gave a report of the survey on the control of cancer in St. Louis County and made several recommendations. The survey was made by the American Society for the Control of Cancer.

A committee was appointed to consult with the contact committee of the St. Louis Medical Society to discuss the fee schedule of insurance companies.

Dr. Garnett Jones, St. Louis, moved that a letter of felicitations be sent to Dr. Joseph R. Walker, Rogersville, Tennessee, who recently celebrated his 100th birthday. The motion was seconded and car-

ried and the secretary was instructed to write Dr. Walker.

There were twenty-eight members and four visitors present.

Meeting of November 11

The Society met at the St. Louis County Hospital, Wednesday afternoon, November 11.

Dr. Eugene A. Scharff, St. Louis, and Dr. William A. Smith, University City, were elected members by transfer from the St. Louis Medical Society.

The chairman of the contact committee, Dr. C. P. Dyer, Webster Groves, reported that the speakers on the program for this meeting would inform the Society of the work of the contact committee of the St. Louis Medical Society toward adjusting the fee schedule of insurance companies.

Dr. C. E. Hyndman, St. Louis, Chairman of the Defense Committee of the State Medical Association, gave an address on "Medical Defense." The subject was discussed by Drs. Denney, Armstrong and Townsend.

Mr. Elmer H. Bartelsmeyer, Executive Secretary of the St. Louis Medical Society, read a paper on "Medical Society Contact." Mr. Bartelsmeyer gave suggestions as to how the medical profession might benefit through contacts with industrial, civic and lay organizations, and also how the contact committee adjusts disputed bills against insurance companies for professional services.

The Society extended a vote of thanks to the speakers.

Meeting of December 9

The annual meeting of the Society was held at Van Horn's Farm, St. Louis County, December 9, at 8:00 p. m. A banquet preceded the session. The guests of honor were the honorable members of the county court of St. Louis County, Judge A. Wehmeyer and Mrs. Wehmeyer and Judge P. C. Bopp and Mrs. Bopp. Judge Kuhlmann was unable to attend.

The following were elected to active membership: Drs. B. Rush Loving, Baldwin; Joseph Douglass McDonald, Creve Coeur, and Walter A. Zeitler, Jennings.

The following were elected to corresponding membership: Drs. Leo P. Fitzgerald, University City, and Alphonse McMahon, St. Louis.

Dr. Benjamin G. Haumesser, St. Louis, was elected a member by transfer from the St. Louis Medical Society.

The annual election of officers resulted in the following being elected: President, Dr. John H. Sutter, University City; vice president, Dr. E. O. Breckenridge, Maplewood; secretary-treasurer, Dr. F. J. Petersen, Richmond Heights; censor, Dr. Garnett Jones, St. Louis; delegates, Dr. C. P. Dyer, Webster Groves, and Dr. Otto W. Koch, Clayton.

There were ninety-four members and guests present.

F. J. PETERSEN, M.D., Secretary.

WRIGHT-DOUGLAS COUNTY MEDICAL SOCIETY

The Wright-Douglas County Medical Society met in the Cameo Theater, Mountain Grove, Thursday, November 19, at 2:00 p. m., with the following physicians present: Drs. A. C. Ames, R. W. Denney, H. G. Frame and C. F. Green, of Mountain Grove; Drs. J. D. Ferguson, M. C. Gentry and R. M. Norman, of Ava; Dr. J. A. Fuson, Mansfield, and Dr. L. T. Van Noy, Norwood. The president, Dr.

J. D. Ferguson, Ava, presided. The minutes of the last meeting were read and approved.

A letter was read from Dr. E. J. Goodwin, Secretary of the State Association, concerning a Dr. Oyler who has been soliciting funds from physicians in Illinois and Iowa and who is unworthy of financial assistance.

A letter from Dr. Goodwin, regarding an effort on the part of several St. Louisans to establish a low-grade medical school in St. Louis, was read. Should an attempt be made elsewhere in the State to establish this school the action should be opposed.

In the annual election of officers for 1932, the present officers were reelected by acclamation as follows: President, Dr. J. D. Ferguson, Ava; vice president, Dr. M. C. Gentry, Ava; secretary-treasurer, Dr. A. C. Ames, Mountain Grove; board of censors, Dr. R. M. Norman, Ava (term expires, 1934); Dr. J. A. Fuson, Mansfield (term expires, 1933); Dr. L. T. Van Noy, Norwood (term expires, 1932). Delegate, Dr. R. M. Norman, Ava; alternate, Dr. A. C. Ames, Mountain Grove.

Cases of tularemia were reported by Drs. H. G. Frame and R. M. Norman. Dr. C. F. Green, Mountain Grove, stated that he had seen cases which were no doubt tularemia long before such a disease was known to exist, as no doubt many other physicians have done in the past, which indicates that it is not a new disease but only recently recognized.

Dr. L. T. Van Noy, Norwood, reported a case with all the clinical symptoms of diphtheria, with recovery after the use of antitoxin. The report of bacteriological examination was negative. Dr. Van Noy was uncertain in his mind whether to question the accuracy of his diagnosis or the correctness of the bacteriological examination.

The case of Hodgkin's disease reported by Dr. R. W. Denney, Mountain Grove, at our meeting of May 8, was discussed. The swelling in the neck is said to have broken down and discharged into the throat with little reduction in size. The patient is confined to his home and is failing in health, but not confined in bed. None of those present had seen the patient since the last meeting.

The meeting adjourned at 4:00 p. m. to meet in Mansfield in April, 1932.

A. C. AMES, M.D., Secretary.

WOMAN'S AUXILIARY

Officers 1931-1932

President, Mrs. U. J. Busiek, Springfield.

President-Elect, Mrs. David S. Long, Harrisonville.

1st Vice President, Mrs. Ralph W. Holbrook, Kansas City.

2nd Vice President, Mrs. R. S. Kieffer, St. Louis.

3rd Vice President, Mrs. H. M. Grace, Chillicothe.

4th Vice President, Mrs. W. T. Martin, Albany.

Corresponding Secretary, Mrs. F. T. H'Doubler, Springfield.

Recording Secretary, Mrs. J. A. Chenoweth, Joplin.

Treasurer, Mrs. L. S. James, Blackburn.

Auditor, Mrs. J. J. Gaines, Excelsior Springs.

Directors (2 years): Mrs. George Ruddell, St. Louis; Mrs. G. B. Schulz, Cape Girardeau; Mrs. S. P. Howard, Jefferson City; Mrs. H. W. Carle, St. Joseph; Mrs. Calloway, Nevada. (1 year): Mrs. C. B. Summers, Kansas City; Mrs. J. D. Guyot, Higgins-

ville; Mrs. D. A. Barnhart, Huntsville; Mrs. John A. Powers, Warrensburg; Mrs. P. L. Patrick, Marceline.

NOTES

St. Louis Auxiliary

Mrs. George W. Ruddell and Mrs. Roland S. Kieffer, St. Louis, were hostesses at a delightful luncheon at the Park Plaza on November 18 honoring Mrs. Urban Busiek, Springfield, president of the State Auxiliary, and Mrs. David Long, Harrisonville, president-elect of the State Auxiliary. After luncheon Mrs. Long, who was recently elected president of the Missouri Federation of Women's Clubs, gave an interesting talk on the work which has been done and which can be accomplished by the women of the cities and smaller towns. Mrs. Busiek gave some enlightening data regarding the activities of the auxiliaries in various parts of the State.

TRUTH ABOUT MEDICINES

H-O OATS (Quick) New Style (Hecker H-O Company, Inc., Buffalo, N. Y.). Oat flakes, lightly toasted, cut small and rolled thin to permit quick cooking. The oat flakes contain practically all of the three portions of the groat—bran, germ and endosperm. The product contains: moisture, 8 per cent; ash, 2 per cent; fat, 7.3 per cent; protein, 15.2 per cent; crude fiber, 1.3 per cent; carbohydrates, 66.2 per cent. (Jour. A. M. A., March 7, 1931, p. 773.)

The following products have been accepted by the Committee on Foods of the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in Accepted Foods:

DEL MAIZ BRAND, THE NEW CORN (Minnesota Valley Canning Co., Le Sueur, Minn.). A definite variety of corn standardized to taste and consistency with sugar, salt and water. The composition of the product is: moisture, 74.6 per cent; total solids, 25.4 per cent; ash, 1.1 per cent; reducing sugars, 0.6 per cent; sucrose, 5.8 per cent; protein, 2.7 per cent; fat, 0.9 per cent; crude fiber, 0.3 per cent; total carbohydrates, 20.4 per cent.

HECKERS' CREAM FARINA (Hearts of Wheat) (Hecker H-O Co., Inc., Buffalo, N. Y.).—A wheat flour middlings or farina. A breakfast cereal. The approximate composition of the product is: moisture, 11.0 per cent; mineral matter, 0.4 per cent; fat, 1.1 per cent; protein, 9.5 per cent; crude fiber, 0.3 per cent; carbohydrates, 77.7 per cent. Heckers' Cream Farina is claimed to be an excellent smooth pure wholesome cereal and to be almost entirely free from bran and roughage that may irritate the intestinal organs of the infant. (Jour. A. M. A., April 4, 1931, p. 1145.)

PROPAGANDA FOR REFORM

NORMAN BAKER'S RADIO STATION KTNT.—Norman Baker, of Muscatine, Iowa, is known to the medical profession chiefly because he blackguards the profession and because he exploits alleged cancer cures as part of his many commercial activities. He is suing the American Medical Association for half a million dollars for alleged libel. Not long ago, Norman Baker applied for a renewal of his broadcasting license for his station, KTNT. The Chief Examiner for the Federal Radio Commission, recently filed with the Commission his report recommending that the license be not renewed. It is re-

ported that the Commission extended the license until April 30, 1931, pending final decision. (Jour. A. M. A., April 4, 1931, p. 1167.)

MORE MISBRANDED NOSTRUMS.—The following products have been the subject of prosecution by the Food and Drug Administration of the United States Department of Agriculture which enforces the Federal Food and Drugs Act: Walker's Old Indian Fever Tonic, Walker's Dead Shot Colic Remedy, Walker's Indian Liver and Kidney Tonic and Walker's Pain-I-Cure (Cox and Simpkins): the first consisting essentially of epsom salt, quinine sulphate, iron (ferric) chloride, alcohol and water; the second containing wood alcohol 7.4 per cent, ethyl alcohol, chloroform and sassafras oil; the third consisting essentially of epsom salt, quinine sulphate and iron (ferric) chloride; and the last consisting essentially of chloroform, alcohol and oil of sassafras. Barkin's Laxative Cold Tablets (Thomas F. Burch and Co., Inc.), containing acetanilid, caffeine, red pepper and podophyllin. Watkin's Cold Tablets (J. R. Watkins Co.), consisting essentially of acetanilid, cinchona alkaloid, resinous material and starch. F E I Solution (F E I Corporation), consisting essentially of boric acid, glycerin, a small amount of copper sulphate (blue vitriol), alcohol and water, flavored with oil of cassia. Life for Blood and Nerves (Standard Drug Co.), essentially extracts of plant drugs, including a laxative, in about 13 per cent of alcohol and water. Cre-Cal-Co (Creo Chemical Co.), consisting essentially of small amounts of creosote, traces of salts of calcium, magnesium and sodium, phosphates, chlorides and sulphates in water, colored with a red dye. H.H.H. Liniment (H. R. Moore & Sons), consisting essentially of volatile oils including camphor and sassafras, with extracts of plant drugs, ammonia, soap, 51 per cent of alcohol and water. Vapo-Cresolene (Vapo-Cresolene Co.), consisting essentially of cresol with small amounts of water and neutral oil. Prunidia (Standard Drug Co.), consisting essentially of extracts of plant drugs, with about 12 per cent of alcohol. A.D.S. Pile Treatment (American Druggist's Syndicate), consisting essentially of an ointment with a petrolatum base, containing small amounts of tannin, carbolic acid and a tar derivative. A.D.S. Hepatic Salts (American Druggist's Syndicate), consisting essentially of Glauber's salt, baking soda, sodium phosphate, table salt, citric acid and a small amount of a lithium compound. Bal-Sa-Me-A (Balsamea Laboratories, Inc.), consisting essentially of extracts of plant drugs, including rhubarb and leptotaenia, a trace of chloroform, alcohol, sugar and water. (Jour. A. M. A., April 11, 1931, p. 1250.)

LIMITATION OF THE MANUFACTURE OF NARCOTIC DRUGS.—In accordance with the provisions of the Hague convention of 1912, Congress made laws for controlling and regulating the production of and the traffic in the drugs mentioned by the convention. Now domestic production and traffic in these dangerous drugs is limited by federal law. The importation of opium and coca leaves into the United States is restricted. The enforcement of the laws have however not prevented the importation of drugs for illicit uses. Introduction of narcotic drugs by smugglers cannot be prevented until other countries control the manufacture and export of narcotic drugs adequately. To this end our government initiated the movement which resulted in the calling of the International Opium Commission at Shanghai in 1909 and since then has continued in its efforts along these lines. The manufacture of narcotic drugs must be limited to approximate medicinal and scientific needs. Physicians must aid in

the determination of such needs by limiting their own prescribing to indispensable uses. The pitiful character of the drug addict and the association of drug addiction with crime and other menaces to the public welfare demand all the help that physicians can give in solving this problem. (Jour. A. M. A., May 9, 1931, p. 1623.)

MEAD'S POWDERED BREWER'S YEAST.—In the announcement of acceptance of Mead's Powdered Brewer's Yeast by the Council on Pharmacy and Chemistry (Jour. A. M. A., May 2, 1931, p. 1477) it was erroneously stated that this product assays approximately 1 vitamin B₂ (G unit) per Gm. It should have read 10 instead of 1. It was also erroneously stated that the unit of vitamin B₁ used for that amount of substance which added to the diet of rats showing symptoms induced by deficiency of B₁ (F) would give an average weekly gain in weight of 3 Gm. for eight weeks. This should have read 11 to 14 Gm. instead of 3 Gm. Another error was that the product offers not less than 0.98 unit of vitamin B₂ (G) per gram. This should have read 10 units instead of 0.98 unit. (Jour. A. M. A., July 11, 1931, p. 103.)

REFISTINE, NOT ACCEPTABLE FOR N. N. R.—According to the information sent the Council on Pharmacy and Chemistry by the American distributor, Refistine is the dry extract of a Brazilian plant belonging to the group of "strychnoses," marketed in the form of tablets. The preparation is claimed to be efficacious to combat hypertension, arthritis, arteriosclerosis, rheumatism, etc. The Council found Refistine unacceptable for New and Nonofficial Remedies because no evidence for the therapeutic usefulness of the preparation had been furnished and the claims for its use are unwarranted; because it is marketed in a way that may lead to its ill advised use by the public; and because no evidence was supplied to show that the composition and uniformity of the preparation is adequately controlled. (Jour. A. M. A., June 27, 1931, p. 2197.)

THE INSULOID (INSUROL) FRAUD.—For the past year or two there has been exploited from New York City and Bridgeport, Conn., a particularly vicious piece of quackery directed against diabetics. The nostrum involved was known, first, as Insulol and was sold by Official Products, Inc., of 276 West 43d St., New York City. The advertising stated that Insulol Tablets "combined insulin with the actual substance of the pancreas gland" and they were described as "a triumph of Germany's biochemical laboratories." Later, the name of the concern was changed to the Insulol Company of America, Inc. About the time that this change was made there was also a change in the name of the product from Insulol to Insuloid and the public was told, in effect, that Insuloid was merely a new name for Insulol. The facts were that the products were entirely different. Insulol Tablets were keratin-coated and contained animal tissue (probably derived from the pancreas). They did not contain boldo, jambul; myrtillin, bean-pod tea, or lithium benzoate. Insuloid, on the other hand, was an uncoated tablet and contained all of the products just named, except pancreatin. It did not contain insulin. Government experts introduced uncontroverted testimony to show that neither Insulol tablets nor Insuloid tablets would cure diabetes and that neither was a substitute for insulin administered hypodermically. The Post Office authorities issued a fraud order against the Insulol Company, Inc., H. C. Young, President, Official Products, Inc., Otto Probst,

Manager, at New York City and Bridgeport, Conn. (Jour. A. M. A., July 4, 1931, p. 47.)

ASTHMOL AND ASTHMOL-EPHEDRINE, NOT ACCEPTABLE FOR N. N. R.—Asthmol and Asthmol-Ephedrine are products of Opothapeutic Laboratory, Sagone & Co., Palermo, Italy, distributed in the United States by the Asthmol Co., New York. Asthmol is a liquid preparation, marketed in the form of ampoules. The product is stated to be a combination of pituitary and suprarenal extracts but no definite statement of composition or potency is made. As the name suggests, Asthmol is proposed for the treatment of asthma. Asthmol-Ephedrine (also referred to as "Syrup of Asthmol") is stated to be composed of: "Ephedrine 0.20 Sodium Benzoate, Jodide and bromide, ana 0.25,—Grindelia, 1.75 —In 100 c.c. of gomenolo-Balsamic syrup. Contains alcohol: 2 per cent by volume." The claims advanced for Asthmol-Ephedrine are typical of those made for complex mixtures—the praise of each constituent is sung without any consideration being given to the question as to whether the several constituents, even if they have the virtues ascribed to them, are indicated at one and the same time and in precisely the amount furnished by the formula. The Council on Pharmacy and Chemistry finds Asthmol and Asthmol-Ephedrine (Dr. Sagone's Syrup of Asthmol) unacceptable for New and Nonofficial Remedies because their composition is unscientific and indefinite, because their names are therapeutically suggestive and not descriptive of composition, and because the therapeutic claims made for them are unwarranted. (Jour. A. M. A., July 11, 1931, p. 103.)

NEW AND NONOFFICIAL REMEDIES

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

PENTOBARBITAL-SODIUM.—Sodium ethyl (1-methylbutyl) barbiturate. Sodium ethyl (methylpropylcarbonyl) barbiturate. The monosodium salt of ethyl—(1-methylbutyl) barbituric acid. Pentobarbital-sodium differs from barbital, U. S. P. (sodium diethylbarbiturate) in that one of the ethyl groups of the latter is replaced in the former by a 1-methylbutyl group. The actions and uses of pentobarbital-sodium are essentially similar to those of barbital, but it is effective in smaller doses. The action is of relatively brief duration, which may constitute an advantage, especially when relatively large doses are administered. It is used as a sedative, particularly prior to local, general or spinal anesthesia. It can be used safely for such purposes only by those who have had adequate experience and who are familiar with the literature concerning such use. The drug may be administered by mouth or rectum; intravenous injection is considered unsafe.

CAPSULES PENTOBARBITAL-SODIUM—Abbott, 1½ grains.—Each capsule contains pentobarbital-sodium—N. N. R., 0.1 Gm. (1½ grains). Abbott Laboratories, North Chicago, Ill.

PULVULES PENTOBARBITAL-SODIUM—Lilly, 1½ grains.—Each pulvule (capsule) contains pentobarbital-sodium—N. N. R., 0.1 Gm. (1½ grains) and starch, 0.13 Gm. Eli Lilly & Co., Indianapolis, Ind. (Jour. A. M. A., September 5, 1931, p. 705.)

SKIODAN-METHIODAL.—The sodium salt of monoiodo-methane-sulphonic acid. Skiodan contains 52 per cent of iodine. It is proposed as a therapeutically indifferent medium for roentgenography, especially for visualization of the urinary tract either by in-

travenous injection or by direct injection into the renal pelvis through a ureteral catheter. It has also been administered rectally. Winthrop Chemical Co., Inc., New York.

GYNERGEN SOLUTION 0.1 Per Cent.—Each c.c. of solution contains 1 mg. of gynergen (New and Nonofficial Remedies, 1931, p. 183) and a small excess of tartaric acid. Sandoz Chemical Works, Inc., New York.

SQUIBB CHOCOLATE VITAVOSE.—A mixture of Squibb's vitavose (New and Nonofficial Remedies, 1931, p. 245) 30 per cent, with cocoa, milk solids and sucrose. E. R. Squibb & Sons, New York. (Jour. A. M. A., September 12, 1931, p. 779.)

SCARLET FEVER STREPTOCOCCUS TOXIN—Squibb (New and Nonofficial Remedies, 1931, p. 370).—This product is also marketed in packages of six 10 c.c. vials of toxin containing, respectively, 500, 2,000, 8,000, 25,000, 40,000 and 40,000 skin test doses per c.c. E. R. Squibb & Sons, New York. (Jour. A. M. A., September 26, 1931, p. 930.)

ELIXIR No. 229 EPHEDRINE SULPHATE, 2 grains.—It contains ephedrine sulphate—Lilly (New and Nonofficial Remedies, 1931, p. 177), 0.44 Gm. in 100 c.c. (2 grains per fluidounce) in a menstruum composed of alcohol, glycerin, sucrose and water, with flavoring agents. Eli Lilly & Co., Indianapolis.

VENTRICULIN, 100 Gm.—Each bottle contains 100 Gm. of ventriculin (New and Nonofficial Remedies, 1931, p. 238). Parke, Davis & Co., Detroit. (Jour. A. M. A., August 8, 1931, p. 391.)

SQUIBB LIQUID PETROLATUM WITH AGAR AND PHENOLPHTHALEIN.—Liquid petrolatum—Squibb, heavy (California), 50 c.c.; agar, 1.5 Gm.; phenolphthalein, 0.095 Gm. (1½ grains per fluid-ounce); sodium benzoate, 0.1 Gm.; acacia, glycerin and water sufficient to make 100 c.c. E. R. Squibb & Sons, New York.

SOLUTION LIVER EXTRACT PARENTERAL—Lederle.—A sterile aqueous solution of a concentrated water soluble, nitrogenous, nonprotein fraction obtained from fresh mammalian liver. It is marketed in ampules, each containing the material obtained from 100 Gm. of liver. Solution liver extract parenteral—Lederle is proposed for intramuscular or intravenous injection in the treatment of pernicious anemia. Lederle Laboratories, Inc., Pearl River, N. Y. (Jour. A. M. A., October 3, 1931, p. 1077.)

SANDOPTAL.—Isobutylallyl barbituric acid. Sandoptal differs from barbital (diethylbarbituric acid) in that both of the ethyl groups of the latter are replaced, one by an iso-butyl group and the other by an allyl group. The actions and uses of sandoptal are the same as those of barbital and its therapeutically useful derivatives. It is also supplied in the form of tablets sandoptal, 0.2 Gm. Sandoz Chemical Works, Inc., New York.

DIPHTHERIA TOXIN FOR THE SCHICK TEST—Ready to use without Dilution—Squibb.—A diphtheria toxin (New and Nonofficial Remedies, 1931, p. 383) obtained by growing diphtheria bacilli in broth, aging, and diluting with peptone solution. It is marketed in packages of 1 c.c. containing sufficient for ten tests and in packages of 10 c.c. containing sufficient for 100 tests. E. R. Squibb & Sons, New York. (Jour. A. M. A., October 17, 1931, p. 1149.)

FOODS

The following products have been accepted by the Committee on Foods of the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in Accepted Foods:

DEL MAIZ NIBLETS BRAND (Minnesota Valley Canning Company, Le Sueur, Minn.).—A "vacuum" packed canned whole-kernel corn containing no added salt or sugar and very little added water. It is claimed to be the canned whole kernels of a special breed of corn packed in vacuum to protect the flavor and processed with only a small amount of added water to retain the form of the original kernels.

GREEN GIANT BRAND GREAT BIG TENDER PEAS (Minnesota Valley Canning Company, Le Sueur, Minn.).—Canned ungraded "fancy quality" Green Giant variety peas sweetened with sugar and seasoned with salt. This product is claimed to make an appetizing and easily digestible purée for infants.

BEMAX (Schieffelin & Co., New York).—An entire cereal germ product consisting of a mixture of selected rye, barley, and wheat germ, in which rye germ ordinarily predominates. It is claimed to be a palatable and easily digestible food, stabilized to insure retention of vitamin B potency and against deterioration and rancidity and to be one of the richest natural sources of vitamin B. Its use is claimed to restore to the diet vitamin B and other nutritional elements ordinarily lost by the degeneration of cereals, and to be a valuable and convenient supplement to a diet suspected of being deficient in vitamin B.

GORMAN'S EXTRA FINE BREAD (Special Loaf) (Gorman's Bakery, Inc., Central Falls, R. I.).—A white bread made by the sponge dough method. It is claimed to be a bread of good quality.

KEW BEE BREAD (Sliced and Unsliced) (Parker-Buckey Baking Company, New Britain, Conn.).—A white bread made by the sponge dough method. It is claimed to be a bread of good quality.

AUNT MARTHA BREAD (Wind's Bakery, Whitesboro, N. Y.).—A white bread made by the sponge dough method. It is claimed to be a bread of good quality.

SMACO (200) Whole Milk Sterilized (S. M. A. Corporation, Cleveland, Ohio).—A canned sterilized homogenized whole milk. It is recommended for all uses of whole milk and especially for infant feeding. (Jour. A. M. A., September 12, 1931, p. 780.)

MY BREAD (My Bread Baking Company, New Bedford, Mass.).—A white bread made by the straight dough method. It is claimed to be a bread of good quality.

HARVEST BREAD (Hecht's) (Hecht's Bakery, Bristol, Tenn.).—A white bread made by the sponge dough method. It is claimed to be a bread of good quality. (Jour. A. M. A., September 19, 1931, p. 853.)

KELLOGG'S RICE KRISPIES (Kellogg Co., Battle Creek, Mich.).—A ready to eat, cooked and toasted rice cereal flavored with malt syrup, sugar and salt. It is claimed to be a delicious cooked, easily digested cereal.

EMBO (Purified Wheat Embryo or Germ) (General Mills, Inc., Minneapolis).—Wheat embryo or germ practically free of bran or other parts of the wheat berry hermetically sealed in cans. It is claimed that the product retains the food value and vitamin content of natural wheat germ or embryo which is not modified in manufacture by any heating, bleaching or other process. Unless otherwise prescribed it can be conveniently ingested with minimum loss of vitamin potency by mixing with cereals, vegetables, fruits, after these have been cooked. (Jour. A. M. A., August 1, 1931, p. 321.)

BOOK REVIEWS

THE GLORIES OF VENUS. A Novel of Modern Mexico. By Susan Smith. With drawings in color by Jose Clemente Orozco. New York: Harper & Brothers. 1931. Price \$2.50.

Once one sought Bohemia in the Latin Quarter of Paris. From the time of Robert Louis Stevenson it was only necessary to sit at the Café du Dome long enough to see the youth that would be eventually all the world of art and of literature sitting at the little iron tables on the terrace. And later it was Greenwich Village. There again, in the basement of the old Brevoort, mingled the youth that was to give a new art, a new literature and a new theater to America. And now it is Mexico. If one will sit right now at Sanborn's in the Avenida Madero in the House of Tiles, or browse around the book store of Mr. Bob Hill, he will see the birth of a new Bohemia which is as gay and as sad and as drunken and as important, and ultimately will be as productive, as the old Bohemias that have gone before. And the beauty of the new Bohemia is that it doesn't have to stay in the confines of the big city but, thanks to modern roads and modern transportation, it can crowd into a Fordita and in four hours be in Taxco, which is to Mexico City what the Latin Quarter is to Paris and what Greenwich Village is to New York.

And how Susan Smith, who knows her Mexico and her Bohemians, describes it all! "Taxco by daylight. Drive through the mountains—look like a lot of women sleeping there—hips, curves, so on—ought to see it—damn fine sight." And we can almost see it ourselves in her vivid description. "At last the little yellow car shot out on the highway between the ditches full of calla lilies and climbed the mountainside that looks down on Xochimilco and over to the snows of Popocatepetl and the Sleeping Woman. But the sun was setting when it made the long descent into Cuernavaca and the evening crowd was beginning to gather around the grandstand in the Plaza"—and from Cuernavaca—"Through little villages where the women were carrying their freshly filled water jars from the fountains, and where children and pigs and thin dogs all scrambled out of the road together. Through the blue and gold mountains sleeping in their shadows like brown women wrapped in blue rebozos, like great plains of Indian women sleeping on the warm earth with curved arms and breasts and hips among blue shadows; down the long narrow walled road that Jose de la Borda made for the burro train that carried the silver from his mines to Mexico."

This reviewer is the type of reader that usually skips description, but not description like this which makes you live again the joys of that wonderful ride. And remember, that we who are choking in the winter smoke in St. Louis can in two days and a half be on that "Royal Road to Acapulco."

But description is only one feature of "The Glories of Venus." Meet some of the people. And incidentally these are real people, too thinly disguised not to be recognized by those who know but sufficiently altered to be made most attractive if you like casually colorful, for the most part, unsuccessful people. Meet the blond-bearded Franklin who loves life and liquor and profanity and beauty. Meet Louise of the ash blond hair; you will love her; or if you don't there is something wrong with you. Meet Sarah of the beautiful legs and Paris gowns

who has no worry complex. Meet Samuel Riggs of the University of Kansas who looks so funny in his nightshirt. Meet Morin who loves to gutter roll, and LaCross who puts publication ahead of fornication. "Ninon de l' Enclos in her prime," says Louise, "wouldn't be able to hold him if a publisher came into the room." Then there are the tenants on the roof at Dolores Number 10 that one meets briefly but poignantly.

There isn't too much story to "The Glories of Venus" but there is both the joy and the sorrow of life just as it has to come to all of us. One sees death come quickly as it well may in Mexico. You get something of the narrow-minded souls that one has to meet in life. But back of it all is the true picture of Mexico, the real Mexico of its simple people "who may have had smallpox but who don't have to cook in aluminum pots. . . . Where there is no one so poor or so ragged that he can't take pleasure whenever it offers, and with perfect unconsciousness of his rags. Where there is no sense of defeat in spite of poverty."

We of the medical profession of Missouri are more and more finding Mexico an ideal place for our vacations. Mexico is at our door, its climate permits us to go at any time of the year, its law-makers know no Volstead. In art, in archaeology, in architecture and in natural beauty it rivals anything in Europe. Books like Susan Smith's "Glories of Venus" make those of us who enjoy Mexico appreciate it more sincerely and will give those who are about to know Mexico a truer insight into the people who live there.

Concerning books on Mexico, there are a plenty but not many that it is necessary for one to read. If you are preparing for a Mexico vacation we recommend Prescott's "Conquest," and "Life in Mexico" written by Calderon de la Barca in 1843, for a background. For a general knowledge of the country its politics, religion, history and what not, there is Ernest Gruening's "Mexico and Its Heritage," Anita Brenner's "Idols Behind Altars," the books of Carleton Beals and the recent, very interesting book of Stuart Chase's. And just for the pure joy of reading and for the true atmosphere of the country there is the charming little book of F. Hopkinson Smith's, "A White Umbrella in Mexico," and Charles M. Flandrau's "Viva Mexico" with its unforgettable chapter on the English family on the coffee plantation. And now to complete the tripod depicting this particular side of Mexico as we see it today, with its Fords and radios on the one hand and its painted masks and pulquerias on the other, Susan Smith has given us "The Glories of Venus."

R. L. T.

THE CAUSATION OF CHRONIC GASTRO-DUODENAL ULCERS. A New Theory. By J.-Jacques Spira, M.R.C.S. (Eng.), L.R.C.P. (Lond.). With an introduction by Sir Humphry Rolleston, Bart., G.C.V.O., K.C.B., Physician in Ordinary to H. M. the King, Regius Professor of Physic in the University of Cambridge, etc. Oxford University Press, American Branch, 114 Fifth Avenue, New York. 1931. Price \$2.50.

This book is a discussion of the various theories in the causation of peptic ulcer. The new theory advanced by the author for the cause of chronic ulcer is a food factor. The argument may be stated as follows: Fat when taken into the stomach regularly causes a regurgitation of bile salts into the

stomach and bile salts, mixed with the acid of the stomach content, damages the mucous membrane of the stomach. The closer proximity of the duodenum to the bile duct may explain the presence of ulcer in the duodenum more frequently than ulcer in the stomach. There is reference to experimental data for these statements.

Familiar incidents and geographical distribution are cited as evidence of the diet factor, a high fat intake. In a chapter on etiology the numerous causes of acute ulcer are given, stressing the point that experimentally acute ulcer is easy to produce while chronic ulcer has not been so produced. There is a just criticism of the dietaries prescribed for peptic ulcer. The discussion on clinical experience is very convincing even though only good results are reported. This short discussion of peptic ulcer is well worth reading. The plan of treatment deserves more than ordinary attention. P. C. S.

DIAGNOSIS IN JOINT DISEASE. A Clinical and Pathological Study of Arthritis. By Nathaniel Allison, M.D., F.A.C.S., Professor of Surgery, in Charge of Division of Orthopedic Surgery, University of Chicago, etc., and Ralph K. Ghormley, M.D., Associate in Orthopedic Surgery, Mayo Clinic; Assistant Professor of Orthopedic Surgery, Mayo Foundation, Rochester, Minnesota. From the Orthopedic Service of the Massachusetts General Hospital and the Harvard Medical School (1924-1930). Assisted by the DeLemar Mobile Research Fund. New York: William Wood & Company. 1931.

In the one hundred and ninety-four pages which comprise this volume by Nathaniel Allison and Ralph K. Ghormley are contained most of the known and accepted facts of joint pathology and diagnosis. Two hundred and eighty-nine cases were studied, the investigation including clinical findings, roentgenographic data, results of serological and blood studies, the allergic reactions, the result of culture and tissue examination and the findings of animal inoculation; the result of this study forms the basis of the treatise. In addition, the collateral literature has been carefully edited and used to amplify the personal observations of the authors.

One is impressed with the direct manner in which this rather complicated subject has been attacked and the careful manner in which the data secured has been studied. Three questions were asked by the investigators in collecting their data: (1) What is the etiological factor? (2) What tissue of the joint is primarily affected? (3) What is the character of the tissue change? The answering of these questions has enabled the authors to formulate a simple classification of diseases of the joints, define the pathological changes which characterize each type and to draw conclusions of diagnostic importance which should be very helpful in differentiating the various forms of joint disease.

The manner in which the material is handled is excellent; each subject is introduced by a general discussion of the condition under consideration and this is followed by case histories which illustrate the points brought out in the discussion. The correlation of the clinical findings, the gross pathology at operation, the pathological reports and the roentgen ray findings make each case history a complete picture which affords concrete information readily appreciated by the student. Because of the

manner in which the material is handled, it is impossible in a review to give a synopsis of the subject matter; it is a book which must be read to be appreciated at its full worth.

The make-up of the book is excellent; particularly to be commended are the reproductions of the roentgen ray plates. The extremely high typographical standard is marred in two instances by evidences of carelessness which should be remedied in the next edition; on pages 61 and 101 roentgen ray views of the knees are turned upside-down, thus detracting greatly from the appearance of these pages.

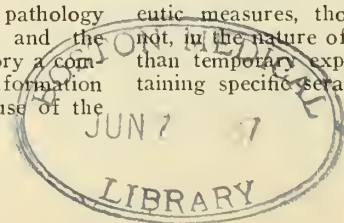
This treatise on the diagnosis of joint diseases is in the opinion of the reviewer the most lucid and up-to-date publication on this subject with which he is acquainted and constitutes an extremely valuable contribution to study in this very important field. It deserves the most careful study by all who are interested in diseases affecting the joints—in other words, the entire medical profession. F. D. D.

ENCEPHALITIS LETHARGICA: ITS SEQUELAE AND TREATMENT. By Constantin von Economo, Professor of Psychiatry and Neurology in the University of Vienna. Translated and adapted by K. O. Newman, M.D., Pathologist to the Oxford County and City Mental Hospital, Oxford. With 21 illustrations. Oxford University Press, American Branch, 114 Fifth Avenue, New York. 1931. Price \$6.00.

This book presents every evidence of having been carefully prepared and the index to subjects as well as to the names of authors is full and well arranged making it a convenient volume for reference. The names of American authors are rather conspicuously absent. The translator in his preface undertakes an explanation of this fact which might even be construed into an apology. We notice that the author's preface is dated 1929. Since that time certain Americans have contributed considerable material, especially to the pathology and the sequelae of encephalitis.

The author's chapters on the chronic manifestations and sequelae of the disease are full enough to be very satisfactory. His chapters on therapy cover pretty much everything that has ever been suggested. His enthusiasm about the use of iodine is not shared by many others. He goes so far as to say that an acute case not treated with iodine is in fact "untreated." This certainly sounds extreme to many who have used the injections of iodine. He mentions various other articles but we see no mention of the intravenous use of glucose which has had quite a vogue in certain localities, at least in the United States. Neither do we find mention of the use of large quantities of water for purposes of elimination which was recommended from various sources in the early months of the epidemic and especially in America, so far as we know. The reviewer is of the opinion that this method has been much neglected in an effort to find more specific medicinal articles. However, the discussion of treatment in this disease is rather trite at this stage. Professor Economo confesses "that all these therapeutic measures, though occasionally helpful, must not, in the nature of things, be looked upon as more than temporary expedients until we succeed in obtaining specific sera against the encephalitic virus."

F. F.



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PUBLICATION COMMITTEE { J. C. B. DAVIS, M.D., Chairman
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SUPRAPUBIC PROSTATECTOMY UNDER VISION WITH RECONSTRUCTION OF THE BLADDER NECK*†1

CLINTON K. SMITH, M.D.

AND

JAMES M. NISBETT, M.D.

KANSAS CITY, MO.

It has been the contention of the sponsors of perineal prostatectomy that this operation is performed entirely under the eye, in contrast to the customary procedure of suprapubic prostatectomy wherein the operator depends almost entirely on the sense of touch in the removal of the prostate; that, on this account, hemorrhage can be better controlled and that the removal of the gland can be more accurately accomplished. These contentions are entirely valid and must be accorded profound respect.

In this paper we wish to describe an operative procedure for removal of the prostate suprapubically which has all the advantages claimed for the perineal procedure with the added advantage of reconstruction of the bladder neck under vision.

Undeniably, the operation of prostatectomy has had an unenviable reputation. Today many unfortunate sufferers from prostatic obstruction are denied relief owing to their fear of the hazards of this operation.

Hitherto, many operators have prided themselves on being able to tear open a previous cystotomy wound, gouge out the prostate, quickly insert a drainage tube and get the patient off the table, all in five minutes, with the idea of avoiding anesthetic and surgical shock. In this connection we wish to emphasize that no patient whose condition requires this plan of management is a fit subject for prostatectomy.

The successful management of prostatectomy revolves about accurate knowledge and appreciation of certain vital and mechanical physiology. By this it must be understood that the successful operator must be not only a skilled surgical mechanic but in addition he must know and evaluate cardiac, renal, hepatic, pulmonary and gastro-intestinal physiology, for the reason that the hazards of prostatectomy are largely a problem of how successfully this vital physiological ensemble is able to readjust itself to an unaccustomed level established by the release of so-called back pressure incident to the removal of the obstructing prostate. The procedure of prostatectomy, therefore, resolves itself into a three phase affair, viz.:

First: The preparation of the patient, wherein a cautious and gradual release of the obstruction is accomplished while careful study of vital physiology is made, such support and assistance being given until it is apparent that a satisfactory readjustment has occurred whether the time required be days, weeks, or months.

Second: The surgical procedure of removal of the gland. This must be done in a manner which leaves the bladder in a condition in which the mechanophysiology is as nearly normal as possible. This requires reconstruction of the bladder neck under vision, which is the principal thesis of this paper.

Third: The postoperative care of the patient, which requires watchful study of vital physiology together with all possible care in sparing the patient every discomfort. The successful management of each succeeding phase is dependent upon how well the preceding work has been done.

The initial preoperative examination of the prostate is essentially thorough and painstaking, including a cystoscopy to gain a precise conception of the intravesical aspect of the prostate. In addition, there should be a complete physical survey with special attention directed to the cardiovascular system including an electrocardiogram.

Probably in no other surgical procedure is

* From the Department of Surgery, University of Kansas School of Medicine.

† Read by title before the 74th Annual Meeting of the Missouri State Medical Association, Joplin, May 11-14, 1931.

1. Read before the 11th Annual Meeting of the Southwestern Branch of the American Urological Association, Kansas City, Missouri, October 10, 1931.

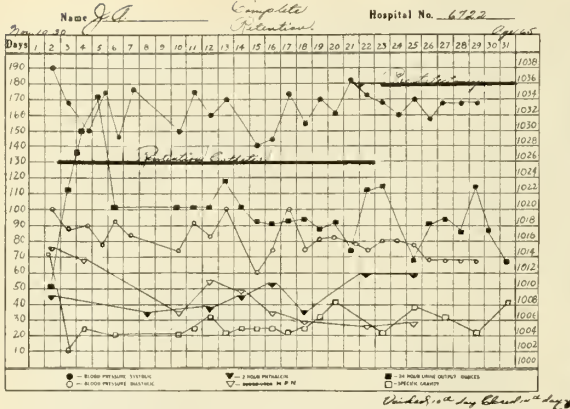


Fig. 1. Graphic chart visualizing a concrete ensemble of the physiological data.

the preoperative preparation of such vital importance as in prostatectomy. Restoration of the vital renal and cardiovascular physiology to normal or approximately normal through continuous bladder drainage obviously is the motive of this period of preoperative preparation. This in our experience seems best accomplished through the use of the indwelling urethral catheter and proves entirely adequate in the great majority of cases.

Appropriately at this point might be stressed the value of a preliminary bilateral vasectomy, which is a routine procedure in our practice. This simple expedient has for its purpose the prevention of epididymitis from the indwelling catheter; a condition which vexes both patient and surgeon and often delays operation.

During the period of catheter decompression a special graphic chart is used on which are recorded daily the patient's blood pressure, blood chemistry, phthalein function, total fluid intake, urine output and specific gravity (fig. 1). The significance of the trend of the blood pressure as a practical index to circulatory physiology has previously been stressed by one of us.² Experience has told in mournful numbers that the operation should never be undertaken while the pressure is falling. Usually, however, the blood pressure recovers about one half its decline and becomes stabilized, at which time we may assume that circulatory stabilization has occurred.

When do we consider the preparation adequate? When the blood pressure remains stabilized, the blood chemistry persistently within normal limits or nearly so, and the specific gravity of the urine bearing a constant relation to the total fluid intake and urine output; of less importance are the phthalein readings; and last, but by no means least, when the patient

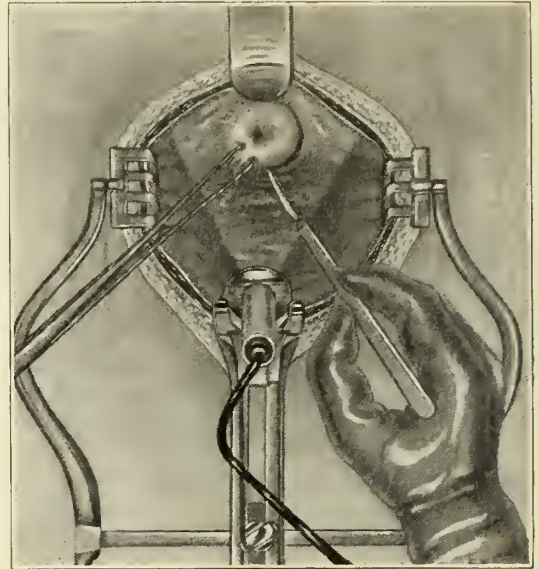


Fig. 2. Bladder opened with author's illuminated retractor in place. Prostate grasped with tenaculum forceps and incision carried around vesical aspect of the gland.

himself actually looks good and feels good and the tongue is continuously moist. To these clinical criteria we attach as much significance as to all laboratory data.

In that small proportion of patients whom the indwelling catheter does not sufficiently prepare after three or four weeks the only alternative is obviously a two-stage operation. But even in this group of cases a preliminary catheter decompression is of genuine value in decreasing the shock attendant upon the suprapubic cystostomy.

With the patient suitably prepared for operation, the next problem to be considered is the type of anesthesia. In our hands spinal anesthesia has proved superior for several reasons: First, pulmonary sequelae of a general anesthetic are avoided; second, dehydration is minimized; third, postoperative vomiting with resulting acidosis is eliminated and fluids may be pushed orally almost immediately following operation—indeed it is not uncommon for the patient to take a light lunch on his operative day. The operator is given ample time in which to perform a careful enucleation of the gland and subsequently a plastic restoration of the bladder neck and attend more thoroughly to hemostasis. The criticism that spinal anesthesia predisposes to secondary hemorrhage is not groundless, but we feel that this untoward aspect may be prevented very largely by the administration of ephedrine one or two hours prior to the spinal puncture and also by the Ballenger hemostatic bag, as will be described later.

2. Smith, Clinton K.: Factors in the Mortality of Prostatectomy, Southwest J. M. & S. 29:1 (January) 1921.

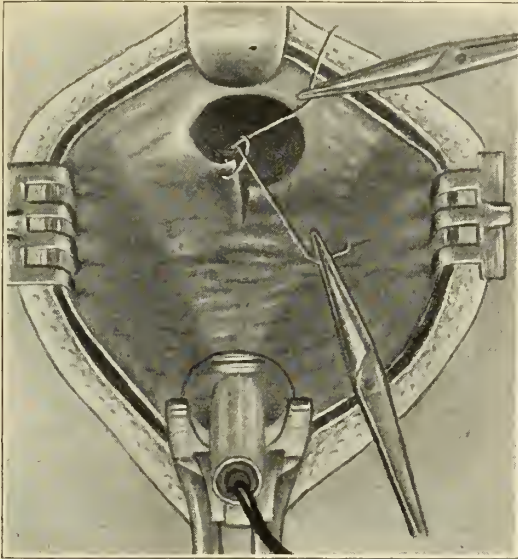


Fig. 3. Incision made through the lower aspect of ring-like vesical outlet and suture placed through the angle of flap and reintroduced into the prostatic capsule forward and lateral to the bladder neck.

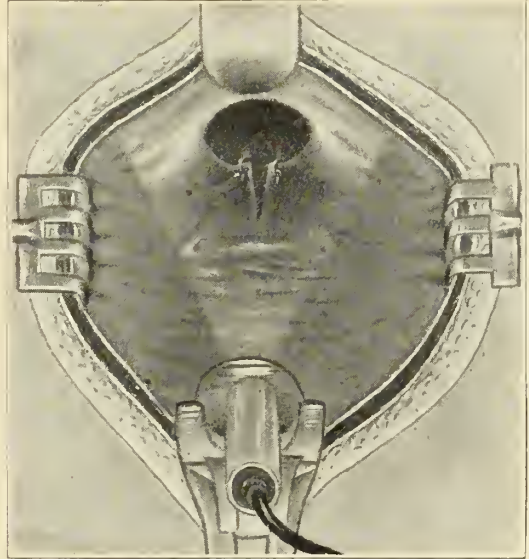


Fig. 4. Sutures placed at angles of bladder neck flaps as shown in figure 3 and tied, thus preventing the formation of ring-like diaphragm at the vesical outlet and eliminating a vesico-prostatic pocket or sump.

Immediately after the administration of the spinal anesthetic the patient is placed in the Trendelenburg posture in order to combat ischemia of vital cerebral centers and to clear the pelvis of intestines. The operation may be begun now as soon as the anesthesia becomes complete, a matter usually of from five to ten minutes. The usual suprapubic incision is made and the bladder, previously filled with water, exposed. After the peritoneum has been pushed back a site high upon the anterior surface is chosen for opening the bladder. The incision is enlarged to admit the author's modification of Judd's mechanical retractor bearing the incandescent light bulb (fig. 2). The blades of the retractor are spread so as to give the maximum exposure of the interior of the viscus and fastened in place with the accompanying thumb screws. When the light is adjusted, an amply retracted and completely illuminated bladder is presented to the operator. Any co-existent pathological condition, such as stones or diverticulum, is at once brought into view (fig. 2).

The prostate is seized with a volsellum forceps of suitable length and construction and pulled up to facilitate enucleation, much the same as the procedure employed in performing a tonsillectomy (fig. 2). The line of cleavage between the gland and its capsule is initiated by a circular incision extending from the bladder neck all the way around the gland. This incision extends through the prostatic capsule. Next, a long handled periosteal elevator is insinuated at some point on this incision and the

gland is thus separated from its capsule by blunt dissection, aided when necessary by sweeping the index finger around the line of cleavage. By this procedure the gland is usually enucleated cleanly and completely. After removal of the gland the cavity is sponged and carefully inspected for remaining tags or nodules of prostatic tissue. Close attention is next given to the ligation of all bleeding points discernible, a procedure that is greatly facilitated by the illuminated retractor.

Our next objective is the plastic restoration of the bladder neck and the obliteration of the dead space resulting from the removal of the gland. This measure is one of immense importance because upon its successful execution depends the degree of gratification in the result of the operation as measured by the patient throughout his remaining postoperative years. As has been pointed out previously by Denslow³ and others, postoperative contracture of the bladder outlet frequently occurs and forms a stricture or diaphragm at this point which often dramatically defeats the very purpose of the operation. Conceding that this contracture may not occur to the extent of producing the above described embarrassment, yet sufficient contraction does occur as to leave a dead space or sump just outside the bladder outlet in the cavity previously occupied by the prostate. Here remains a granulating pus-forming pocket which to our mind is the principal etiologic factor in those cases in which a cloudy pus-

3. Denslow, Frank M.: Recurrence of Urinary Obstruction after Prostatectomy, *J. A. M. A.* 70:441 (Feb. 16) 1918.

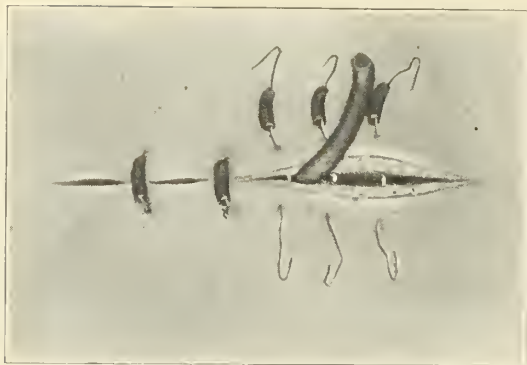


Fig. 5. Silver wire sutures placed through and through skin fascia and muscles. All catgut is dispensed with except purse string about bladder drainage tube. This procedure insures against postoperative sloughing of the abdominal wall with attendant hernia.

laden urine persists. In our cases following restoration of the bladder neck whereby this dead space is eliminated, the urine almost invariably is entirely clear in from two to three weeks following the closure of the suprapubic wound.

TECHNIC

The technic employed to accomplish restoration of the bladder neck follows: An incision is made through the lower aspect of the bladder neck longitudinal to the posterior urethra and is curved down through the trigon to a sufficient depth to place the lower or posterior aspect of the prostatic cavity on a level with the bladder floor (fig. 3). Two catgut sutures are then placed through the marginal angles and the incised bladder neck and trigon. The sutures are then passed through the lateral walls of the prostatic cavity at approximately the location of 4 and 8 o'clock and about one to two centimeters from the bladder neck (fig. 3). These sutures are then tied drawing forward the incised angles of the bladder neck to each side of the prostatic cavity, thus obliterating the dead space and in reality forming a new posterior urethra (fig. 4).

Although all bleeding has apparently been controlled, at this point we feel that it is prudent as a precautionary measure to introduce a hemostatic bag inasmuch as the patient usually leaves the table with a somewhat lowered blood pressure incident to the spinal anesthesia. Previously, on a few occasions, it has been our annoying experience to have encountered rather profuse secondary bleeding upon the recovery of the normal blood pressure level, notwithstanding that all apparent bleeding had been controlled. Our choice of the various hemostatic bags is the Ballenger because it can be withdrawn through the urethra thus avoiding any disturbance of the suprapubic drainage equipment.

After inserting the hemostatic bag the blad-

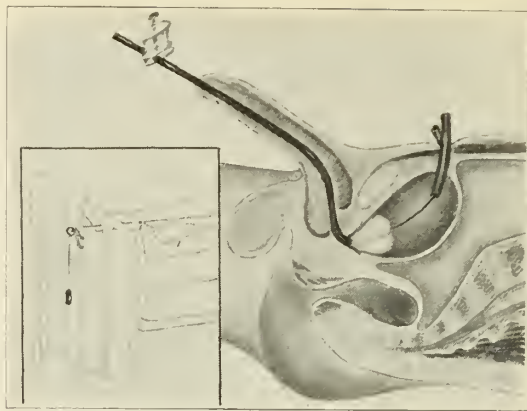


Fig. 6. Ballenger bag in place. Tension maintained by cord passed over pulley at foot of bed with weight attached.

der is ready to be closed. In connection with the closing of the bladder and its subsequent healing two potential "bugbears" stand out threateningly; first, sloughing, often very extensive, about the site of the drainage tube; second, postoperative hernia. In our opinion these undesirable events are the result of seepage of urine along the fascial planes producing a necrosis at the site of the catgut sutures usually used to unite the muscles and fascia of the abdominal wall. To avoid this it has been our practice for some time to eliminate all catgut except a purse string suture to close the bladder about the drainage tube. The edges of the abdominal wall are united by through and through sutures of silver wire which are removed on the tenth postoperative day (fig. 5). Since the inauguration of this technic we have not had a single slough nor hernia. Indeed, the wound heals more promptly and neatly and the patient begins voiding per urethram more promptly.

Let us now follow our patient back to his room for a glimpse of his postoperative management. In this connection there are several measures employed routinely which we deem of sufficient value to emphasize: First, immediately upon returning to the room a cord is tied to the catheter end of the hemostatic bag and passed to the foot of the bed, then passed over a pulley and attached by its distal end to a weight which provides sufficient traction on the bag to maintain its tension in the prostatic cavity constantly for the first twenty-four hours (fig. 6). At the end of the first twenty-four hours the water is withdrawn from the bag but the bag is allowed to remain in situ for another twenty-four hours in case a secondary hemorrhage should supervene. With this plan the urine is usually clear within the first twenty-four hours. During the first forty-eight hours the patient is constantly watched for signs of shock or hemorrhage and his heart

action and blood pressure frequently noted.

Another refinement of postoperative technic consists of a plan whereby the patient is kept dry during his sojourn in bed and an earlier closure of the suprapubic wound is secured. This two-fold advantage is accomplished in the following manner: after removal of the suprapubic drainage tube (on the fifth postoperative day) a bell-shaped glass funnel is inverted over the wound and fastened tightly to the abdominal wall by adhesive tape; a small rubber catheter with numerous perforations is passed into the funnel and coiled around the opening in the abdominal wall; by means of rubber tubing of sufficient length the other or distal end of the catheter is connected to an electrically operated and continuously acting suction pump near the bed. In this manner the patient is kept constantly dry. In the majority of cases the wound is closed by the fourteenth day and by that time the patient is voiding per urethram.

CONCLUSIONS

1. Painsstaking preoperative preparation is of paramount importance.

2. In the majority of cases the desired decompression may be accomplished by use of the indwelling urethral catheter thus rendering possible the performance of suprapubic prostatectomy in one stage.

3. Suprapubic prostatectomy performed under direct vision possesses advantages difficult if not impossible to attain by the usual suprapubic perineal methods.

4. Spinal anesthesia is best suited for prostatectomy.

5. More adequate exposure and retraction of the bladder, together with complete illumination of the operative field as provided by the author's modification of the Judd mechanical retractor, enable the operator better to enucleate the gland under direct vision, better to attend to hemostasis and, finally, to restore the bladder neck by plastic procedure.

6. The application of the suction pump to the suprapubic wound adds to the patient's postoperative comfort, accelerates the closure of the abdominal incision and hastens restoration of urination per urethram.

7. Reconstruction of the bladder neck as described is of distinct advantage in that it restores the bladder neck to a relative degree of normality thereby better insuring bladder function and eliminating postoperative bladder neck contraction.

8. Closure of the abdominal wound by silver wire through and through sutures eliminates distressing sloughing with potential hernia and facilitates earlier closure.

505 Professional Bldg.

ORTHOPEDICS AND THE GENERAL PRACTITIONER *

G. KENNETH COONSE, M.D.

COLUMBIA, MO.

I assure you that I appreciate the opportunity and honor accorded me in this invitation to address you. I shall attempt to discuss briefly the relation of orthopedics to the general practitioner. It is my purpose to discuss this relationship from two aspects; first, its origin, and second, the present status and inter-relationship of orthopedics to general practice. In order that one may clearly understand and appreciate orthopedic surgery as practiced today it is altogether necessary to review its origin and history at least briefly.

ORIGIN AND HISTORY

It was Hippocrates, priest of Aesculapius, who first recorded his surgical and medical knowledge; a knowledge extremely profound and inclusive. The attention which he brought to focus upon bone and joint conditions was so great that he may justly be called the father of bone and joint surgery. From the time of Hippocrates there ensued a long period of medical darkness with no gleam of sunlight until Vesalius appeared on the horizon as public prosecutor at Padua and obtained permission to dissect the human body after death. His "*De Fabrica Human Corporis*" published in Latin in 1543, was our first true anatomy and it is highly probable that this work made it possible for his contemporary, and one of the greatest surgeons of all times, Ambrose Paré, to apply the new knowledge and spread it to members of the medical profession through his writings. Paré served as war surgeon under four successive French kings and concerned himself extensively with bone and joint conditions. He devised many new appliances and methods of treatment.

No other worth while contribution was made to orthopedics for another hundred years until Clopton Havers published his "*Osteologica Nova*" and first described the haversian canals of bone. Fifty years later, Jean Louis Petit, leading French physician of his time, made valuable contributions to the knowledge of inflammatory processes in bone. This marked the beginning of true research in orthopedics.

André, at the ripe old age of eighty years and while dean of the Faculty of Medicine at Paris, published a two-volume thesis on orthopedica. It was he who first coined the word, orthopedic, deriving it from two Greek words meaning to educate, or make straight. He was

* Read at the 55th Annual Meeting of the Southeast Missouri Medical Association, Campbell, October 6-7, 1931.

the first to stress the importance of preventive measures and point out that children have a right to grow up straight. André believed that many of the deformities and abnormalities of adult life were due to faulty body mechanics. In this respect some of the headings of his chapters are interesting; for example, "In what posture young girls ought to sew and read." "The means of preventing the bellies of children from projecting too far forward," and "How to keep their backs straight."

From the time of André contributions to orthopedic surgery became more numerous. Duhamel investigated and recorded the bone growth of live stock on his French estate. John Hunter, in England, brought his extensive knowledge of anatomy to bear on the restoration of function and thus we see the seed for the growth of occupational therapy. Delpsch published his elaborate work, "L Orthomorphie" while a professor of surgery in the famous University of Montpellier. In this the great importance of exercise and physical therapy as restorers of function were recognized for the first time.

Approximately one hundred years ago considerable attention was focused on the chronic ills of bones, joints and muscles. Goodsir with the perfected acromatic microscope studied in detail the tissues of the joints, and Duchenne with his electric battery plotted the nerve pattern of muscles. Little and Bouvier began correcting deformities by cutting contracted tendons or sinews. Meanwhile, Ollier was publishing the reviews of his famous work on bone regeneration, upon the foundations of which we are still building. Then came the well-known revolutionizing discovery of germs by Pasteur with its practical application to surgery by Lister. Doors long closed to the realm of surgery were at once flung open and operations previously almost invariably fatal became comparatively safe. Great strides were made in the advancement of general surgery but very little attention for a time rested upon the chronic sufferers from bone and joint disease. The appeal of the cripple could not be long denied and their cause was again soon championed in England, Germany, Italy and America. Hugh Owen Thomas with his inventive genius laid the foundation of orthopedic surgery upon which his nephew, Sir Robert Jones, has so successfully continued to build. It was Sir Robert who first realized the possibilities of the new era of surgery in bone and joint disease and devoted his unusual talents exclusively to the advancement and practice of orthopedic surgery. The American pioneers were headed by Philip Syng-Physick, of Philadelphia, John Ball, Buckminster Brown, Edward Bradford, of

Boston, Louis Sayre, of New York, and John Ridlon, of Chicago, and their influence was rapidly spread by the able surgical minds attracted to their clinics. The World War tested the mettle and enlarged the scope of orthopedics as a specialty and demonstrated the practicability of methods of treatment in adults which had previously been applied only to children.

It is interesting to note the attitude of the profession to the specialties some fifty years ago. A committee was appointed about that time by the American Medical Association to devise plans for abolishing or at least limiting specialization in medicine, inasmuch as it was felt that specialization was increasing at an alarming rate. The minority report of Henry Bowditch, professor of physiology at Harvard, however, was so wise and appealing that no decisive action was ever taken by the Association.

At the present time we have become more tolerant of specialization. With the accumulation of medical knowledge and refinement of operative technic it is no longer possible for any one individual to amass all this knowledge or acquire perfection in all its branches. A defense of specialization is therefore no longer necessary. However, as a professional guild or group we must guard against such specialization becoming selfish rather than altruistic in purpose. Whenever possible, the new knowledge which research and progress in various specialties make available should be so simplified that it may be acquired and utilized by the profession at large. In this way it will no longer be the exclusive possession of the specialist but become the instrument and property of the general practitioner as well. As Robert Osgood, of Boston, has so ably stated, "Unless the general practitioner is afforded facilities for the acquirement of specialized knowledge and its utilization, medicine will fail. Medicine cannot be true to its honored traditions or realize the vision of its future, if that great cult of guides, philosophers and friends, the personal physicians, disappears."

INTERRELATION WITH GENERAL PRACTICE

The second phase of the problem with which we now concern ourselves seems almost impossible of accomplishment. I shall not attempt to discuss the extent of the specialized methods which have been developed in orthopedic surgery and which are in vogue today. As general practitioners of medicine and surgery it is your privilege, at least in most instances, to be the first to deal with orthopedic conditions, i.e., all conditions dealing with defects in the mechanism of locomotion. Therefore, it is highly important that you should recognize these conditions and institute proper treatment

without undue loss of time. Early diagnosis cannot be overemphasized in orthopedics as time usually deals most harshly with these sufferers, producing contractures, deformities and disabilities which become well nigh intractable in later adult years. In no field of medicine is prevention of so great importance as in the field concerned with the locomotor apparatus.

TWO GROUPS OF PHYSICAL DEFECTS

There are two great groups of physical defects with which orthopedic surgeons must deal: First, those resulting from congenital malformations, and second, those resulting from injury or disease. As you know, all congenital deformities are by definition present from birth. Defects of the skull, face, palate, lips and spine are relatively frequent and congenital malformations of the extremities are not uncommon. In all these cases a careful physical examination of the new-born child will reveal the presence of anomalies and such a child may then be treated promptly or referred by the general practitioner to the proper surgeon or specialist. Harelip, for example, is best corrected by operation upon the day of birth if there are no contraindications. This enables the baby to nurse within forty-eight hours, thereby increasing its chances of livelihood and produces a striking cosmetic improvement thus sparing the mother the shock of constantly seeing such an unsightly deformity in her child. Clubfoot is now treated from the day of birth; if such early treatment is instituted operations or forceful manipulations are as a rule unnecessary. Congenital dislocation of the hip may be reduced by Putti's abduction splint within a few days or weeks after birth.

The second great group of cases is made up chiefly of the aftermath from such diseases as anterior poliomyelitis, tuberculosis of the bones and joints and osteomyelitis. A great many other less frequent conditions of course come into this group resulting from accidental injuries and unusual diseases. The importance of early diagnosis of infantile paralysis cannot be too strongly stressed, particularly in the preparalytic period. Any general practitioner can make an early diagnosis if he will examine the suspected case for spinal rigidity or spasm and do a lumbar puncture. Wherever the disease is suspected spinal puncture is absolutely essential and usually settles the diagnosis. If convalescent serum be given in the preparalytic state paralysis will be prevented in a large percentage of cases, as Acock and Luther have pointed out in their report of the 1927 epidemic in Massachusetts.

Tuberculosis of bones and joints is less fre-

quent than it was fifteen or twenty years ago, but there are still far too many advanced cases. Practically all children contract the disease through direct contact with tuberculous parents or through unpasteurized milk. It begins as a glandular type of infection, the joints being secondarily invaded. Presence of night cries, loss of weight and appetite, and tenderness or muscle spasm about a joint, should immediately suggest the possibility of tuberculosis. In this respect the roentgen ray and tuberculin tests are of great value in young children, often showing very early changes before marked destruction and deformities have occurred. I believe that these cases as a rule are best cared for in hospitals especially equipped to handle them, inasmuch as they require long and expensive treatment.

Osteomyelitis is a most familiar malady and is characterized by high fever and exquisite tenderness and pain along the shaft of the affected bone. Early roentgen ray examination reveals nothing. Late radiograms show characteristically a destructive and proliferative process in bone in contrast to tuberculosis which latter is almost entirely a destructive process starting at the epiphysis and early involving the joint. The importance of rest, nonweight bearing, adequate sunlight and proper diet, cannot be too strongly emphasized in caring for tuberculosis and other chronic diseases of bones and joints.

CONCLUSIONS

In conclusion, I want to stress again the importance to you as general practitioners of immediate or early physical examination of the new-born child for the detection of congenital deformities and the institution of immediate specialized treatment where indicated. This procedure alone would prevent innumerable hopelessly crippling conditions later in life. It would mean a tremendous economic saving to the community as well as to the individuals most directly concerned. Any case of bone, joint, or muscle disease should be promptly and thoroughly investigated, a diagnosis established, and deformities prevented by the institution of proper medical and surgical treatment. Whenever doubt exists in the mind of the practitioner it is perfectly proper and fitting for him to call in consultation one who is especially trained in the detection and treatment of such conditions. There is no mysticism about specialization. It should represent merely detailed study and years of work directed to one particular part or function of the body. Unfortunately, too often a specialist becomes so highly specialized that he ceases to view the organism as a whole and thus loses sight of

the relative value of his particular field in relation to other fields and to the individual. The general practitioner should always have, I believe, the soundest medical and surgical judgment, for it is his privilege to understand and see the individual in his entirety. Usually the general practitioner has followed his cases for years, knows their strength and weaknesses, and often what they will or will not tolerate in the way of medical or surgical treatment. Such judgment is of more value in many instances than the most profound laboratory tests.

General practitioners were the first orthopedists and will always be in the front trenches, ever alert to detect the advancement of crippling diseases among their charges. We as specialists in orthopedics must depend upon you to send us the casualties from the front and in turn we shall endeavor to complete the work which you have so ably begun. This brotherhood and interrelation of the specialties in medicine must prevail if we are to win in our struggle against deformity and disease.

University of Missouri.

THE CHEMISTRY OF DEHYDRATION

ITS RELATION TO PRACTICAL TREATMENT OF
GASTRO-INTESTINAL DISTURBANCE IN
EARLY CHILDHOOD *

FRANK C. NEFF, M.D.

KANSAS CITY, MO.

The influence of physiological chemistry upon medicine is evidenced by the contributions to the literature during the past twenty years on certain disease processes in childhood. Among the diseases are severe gastro-intestinal disturbances of infancy, now not so common as they were a generation ago. Research into the chemical changes in such diseases has explained many of the symptoms and has pointed the way to alleviation or cure.

Finkelstein¹ was one of the first to suggest that fever in diarrheal cases had some relation to defective water metabolism, although he thought the dessication to be an osmotic disturbance in the intestinal mucosa which interfered with protein splitting.

The term "dehydration" is not entirely comprehensive. It indicates only a loss or removal of water. Marriott in 1920 used the term "anhydremia" and "anhydremic intoxication" in dealing with severe diarrheas caused by the loss of salt and water. The term "anhydremia" is likewise not entirely adequate, for it means simply "without water in the blood." Moro² in 1921 advanced the theory that dessication

may result in vomiting and convulsions but that convulsions and alimentary intoxication could not be due to loss of water alone. Other elements, acids, alkalies, salts and proteins, are lost in injurious amounts and must be restored to bring back volume and function. Gamble³ made the details clear, that function is even more impaired by the loss of substances such as electrolytes than by water loss alone. In severe or protracted dehydration from vomiting and diarrhea it becomes evident during treatment that the dehydration cannot be repaired simply by the administration of water.

In many clinical febrile conditions which are more or less symptomatically alike the manifestations are related to an increased concentration of the blood. This probably exists in so-called dehydration fever of the new-born; it is possibly a factor during hot weather when there is excessive water loss from radiation; it occurs from vomiting and diarrhea associated with acute infections outside the gastro-intestinal tract, such as otitis media; it can result from gastro-intestinal disturbance in the winter months when epidemics of influenza-like nature are prevalent; and it occurs sometimes in the common type of vomiting and diarrhea to which infants are especially susceptible. Since vomiting and diarrhea are the accompaniments of so many diseased conditions in childhood, it may well be that in some of these the symptoms as well as the chemical changes in the blood are dependent upon body fluid losses and upon the reduction in urine secretion and blood volume.

It is not an uncommon experience to find in infants who die of so-called intestinal intoxication or of diarrhea that there are at autopsy no significant pathological findings in the gastro-intestinal tract. The diagnoses in these cases were intestinal indigestion, intestinal toxemia, or summer complaint. After the autopsy we spoke of them as "deaths due to some disturbance in the chemistry of the body."

Body Fluid Losses.—These are due to vomiting, diarrhea and fever, as a result of which there is a steady withdrawal of essential material from the blood plasma. To lose these substances from the plasma and not to reabsorb them must interfere with the function both of the blood plasma and of the interstitial fluid of the body.⁴ Water from the cells is also drawn upon to some extent.

There is an almost unbelievable quantity of digestive secretions normally produced in 24 hours. Rowntree⁵ estimated that in an adult the total in 24 hours is about 8.3 quarts (8 liters). This far exceeds the total volume of the blood plasma (Gamble). In the case of vomiting alone, 2.6 quarts (2500 c.c.) of gas-

* Read at the Fall Clinics of the Kansas City Southwest Clinical Society, October 6, 1931.

tric juice in an adult may be lost to the economy by not being reabsorbed. The loss takes out not only water but the acid gastric juice with its chloride, hydrogen and base elements, and also the mucous alkaline secretion, consisting of bicarbonate base, as well as its chloride ion (Gamble). Neff and Haden⁶ in 1925 reported three young children who had no diarrhea but who vomited for days and died of alkalosis and convulsions (tetany). There was great depletion of chloride in the blood plasma in those children and the CO₂ combining power of the blood was abnormally elevated.

In case the intestine is definitely involved in the child's disturbance, with severe diarrheal stools, there can be an even greater loss of body juices. As an indication of the possibilities, the normal adult quantity of succus entericus secreted in 24 hours is said to be more than three quarts (3000 c.c.), while the bile and pancreatic secretion add a further 2500 c.c.

In vomiting and diarrhea of young children, therefore, the body loses hydrochloric acid and chloride base. Hartmann⁷ states that this acid base does not become compensated for by the presence of bicarbonate base as is the case in vomiting of pyloric stenosis. He has further emphasized that the bicarbonate base of the body is greatly reduced by the diarrhea not through neutralization by an increase of acid but by loss from the intestinal secretions and diarrheal stools.

Besides the deleterious effect of loss of water and material in dehydration the change in physical properties of the blood includes an increase in viscosity. This was demonstrated by Utheim⁸ at Washington University in infants who were dehydrated. The functions of the blood are impaired by this change which reduces the volume flow of blood and through retarding of the circulation may result in death.

Reaction of the Blood.—Research upon this subject in recent years may be summarized as follows: The blood reaction is normally kept in a state of balance and tends slightly toward the alkaline side.⁹ When material is lost from the plasma the relation of acid-producing and alkali-producing substances may be changed so as to make a shift in the blood plasma reaction, due to a change in the plasma bicarbonate. This may result in alkalosis, more often in acidosis, though no apparent change from the normal may occur in most cases of diarrhea of infants. The alteration in hydrogen ion concentration of the plasma is determined by which portion of the digestive tube is involved principally in the loss of juices. Vomiting of gastric contents removes more chloride (acid)

element than sodium (base) from the plasma. The plasma bicarbonate, whose function is to maintain exact balance between acid and base, is therefore increased. The close relationship between vomiting and alkalosis is now well known and proved. Alkalosis has been found in humans as a result of high intestinal obstruction accompanied by severe vomiting. Haden and Orr demonstrated this in dogs. The persistent use of bicarbonate of soda as a household remedy or for washing out the stomach may cause a dangerous depletion of gastric chloride.

Acidosis may be a symptom in severe cases due to a depletion of the alkali reserve of the blood. Marriott¹⁰ came to the conclusion that the acidosis due to diarrhea is from the impaired excretion of acid by the kidney, to some extent to the acid sodium phosphate, and to an increase in the plasma inorganic phosphorus. It has long been recognized clinically that there is little excretion of urine in diarrhea. In 1918 Schloss¹¹ emphasized the importance of impaired renal function in the state which has been called intestinal intoxication, accompanied by large watery stools, vomiting and lower intake of fluid. The urine usually contains casts, albumin and, as he reported, some reducing substance for copper which had some of the properties of lactose. Finkelstein mentioned glycosuria as a finding of alimentary intoxication. Schloss studied the reducing substance in the urine of such cases and isolated glucose, or lactose, or a combination of these.

An infant's tissues contain a greater percentage of water and the water metabolism is more active (Schloss). The failure of the kidneys to act, the consequent absence of urine to wash out the substances which in health are excreted, cause a retention of these waste products of metabolism.

	NITROGEN RETENTION*	
	Total Nonprotein Nitrogen Per 100 c.c. of Blood	Urea Nitrogen
Normal infants	23 to 39.1 mg.	4.9 to 14.6 mg.
Sick infant with "intestinal intoxication" and acidosis	57 to 232 mg.	20.1 to 108.2 mg.

* From the figures of Schloss.

He found that the specific gravity of the serum is increased from the normal 1.020 to 1.031, showing one and one half times the normal amount of solids. The nonprotein nitrogen may be as great as five times the normal. He did not regard this as due entirely to increased blood concentration. In severe watery diarrhea the urine output practically stops. Therefore, there is a failure to excrete substances which normally maintain the proper acid-alkali balance of the body.

In acidosis of anhydremia, the type under

discussion, there is seldom ketosis, but when present the acetone bodies in the blood may be in such large quantities that the alkali reserve of the body is drained and the excess of acid not thereby neutralized. It has been suggested that acidosis due to acetone bodies is more apt to occur in dysentery when there has been an injury to the liver.

The lactic acid content of the blood plasma is somewhat elevated in anhydremic acidosis, as was proved by the investigations of Clausen¹² and acknowledged by other investigators. It is present in the form of sodium lactate and with a rise of alkali reserve. Alkalosis can develop in lactic acid variety of acidosis, if sodium bicarbonate be given to such cases that have a rising alkali reserve.

Clinical Recognition.—The appearance of a child who is becoming definitely dehydrated is startling. Possibly the earliest effect noticed is that of the sunken eyes: one can observe this phenomenon in some children still able to be on their feet. If one sees the patients early enough the significance can fortunately be recognized at an early hour when prompt treatment will be of remarkable help. In the later course of the disease the eyelids droop, the eyeballs become dry and do not respond to stimulation.

Changes in the skin are evident: duskiness probably due to circulatory sluggishness, paper-like thinness of the skin, caused by withdrawal of the interstitial fluid of the body.³ In the advanced stage the skin becomes dry and inelastic. The lips are dry and cherry red, the mouth open, the mucosa of the mouth and tongue is dry and dull red. All this appearance testifies to the dessication that has occurred. In the infant with open fontanel the overlying scalp is sunken and parchment-like.

Stupor, irritability, loss of appetite, rapid loss of weight, fever, stools from six to several times that number in 24 hours, vomiting of any liquids taken or of gastric secretions, rapid prostration, sunken abdomen, oliguria, even no urine for a day at a time, are the usual symptoms. There may be a trace of blood in the stools or in the vomitus. Experimentally, Keith produced dehydration and found that blood and mucus might appear in the animals' stools (dogs).

Clinical recognition of acidosis is chiefly from the air hunger, hyperpnea. This is verified by a chemical examination of the blood which will reveal a CO_2 combining power of 30, 20, or less per cent, and a great increase in blood chloride.

Schloss concluded that intestinal intoxication and uremia have the same symptoms, but in uremia there is a kidney lesion while in diar-

rheal disease the waste products are not excreted for lack of enough water to wash them out. He thought that there is not enough renal injury in dehydration to produce the urine reduction, but that possibly the reduction in total blood volume caused a reduced flow of blood through the kidneys. It seems that the lowered supply of water to the kidneys is the cause of some of the lowered output. Most all observers agree that not all cases of so-called intestinal intoxication have diarrhea, especially in the beginning. One sees cases of convulsions, unexplained except for fever and vomiting, which later develop diarrhea.

The presence of alkalosis is suggested by protracted severe vomiting. The CO_2 combining power of the blood should be determined in such an event, and rises to 60, 70, 80, 90, 100 or more volume per cent. Unlike acidosis, the respirations are irregular and excursion depressed. Probably a convulsion will be the first suggestive symptom. The urine examination is of no benefit. Whatever other symptoms may be present belong to the picture of tetany.

Treatment.—It is necessary to recognize the injury that comes from abnormal drainage of the body reservoirs in order promptly to direct efforts toward replacement. The chemical changes are sufficiently known so that they furnish the basis for a therapy entirely different from the drug treatment of a few years ago. Laxatives are out of place in dehydration. Calomel and castor oil have commonly been given at the start and sometimes throughout the disturbance. Bismuth mixtures and so-called astringents are probably harmless. Rectal or colonic injections are seldom retained sufficiently in diarrhea to be of therapeutic benefit, even for taking up water.

It is advisable at the first visit to visualize what would happen from repeated vomiting and rapid prolonged diarrheal losses. The prompt administration of hypodermoclysis of salt solution may be a great factor in preventing a serious outcome.

There is no curative agent, but the dehydration should be combated by using all the methods which supply body volume needs. Powers¹³ well summarized these in reporting the routine used in his department at Yale. It is said that normal infants use 38 to 48 ounces of fluid each day.¹⁴ It would seem, therefore, that in dehydration the daily intake should be even more than those amounts.

During the beginning of fluid administration by parenteral routes, a half or whole day of starvation by the mouth may be of advantage if this has not previously been done. Gastric lavage is a good early procedure for it often

stops the vomiting. Then one may try the oral administration of cool water, solutions of sugar, tea or other innocuous preparations. Infants of breast-milk age should be given human milk if possible. Protein milk has been the most popular of artificial foods in recent years but in some hospitals buttermilk is used or gruel cooked in skim milk. In more recent times fresh or cooked fruit juices have been advised. At the Bell Memorial Hospital we are giving the older infants strained vegetable soup (pot liquor) at least once a day. By these various methods fluids, salts and vitamins are available for absorption.

Since sodium, chloride and water are the principal elements lost from the body during dehydration, it seems rational to use physiologic salt solution for the purpose of bringing back the body fluid to its normal state. Since urine is scanty it is advisable to use a diuretic. Glucose intravenously is usually possible and has a diuretic action, thus repairing dehydration. It is probably better, as advised by Schloss, to give glucose in a solution by itself.

In the severely dehydrated child when the loss has been rapid no more spectacular result in medicine is seen than from the injection of sodium chloride or Ringer's solution by hypodermoclysis or into the peritoneum. If the circulation is poor or if the child is so nearly moribund that it is questionable whether the fluid will be taken up by the peritoneal route, it is well first to give a few ounces of isotonic glucose solution by vein to see if the patient improves (Powers). One does not attempt injection into the peritoneal cavity if the abdomen be distended but employs instead the subcutaneous route.

In severe dehydration a transfusion of blood is advisable along with the administration of fluids by parenteral routes. From 100 to 200 c.c. are safe and usually adequate quantities. Suitable typed blood should be obtained. We have found at our hospital that seldom do we have to go beyond the individuals of the family or relatives to find a donor. The infant's blood can be typed at the time the specimen is examined for its CO_2 combining power and chloride content.

We have tried during the past few years at Bell Memorial Hospital to examine the blood chemically in all severe cases of diarrhea. When vomiting predominates in the symptomatology or when it is present all through the illness the plasma chloride will usually be low, from 250 to 450 mg. per 100 c.c. of blood. As the chloride goes down the bicarbonate (as CO_2 volume per cent) goes up. This is the state of the blood in alkalosis and it may go on

and be accompanied by convulsions. The child may die of the underlying disease.

When the CO_2 is low the chloride is high. In some instances it may be at about the normal level. This is most apt to be the case when diarrheal symptoms have predominated, but it has been present occasionally in vomiting alone when one would have expected an alkalosis. The unsuccessful effort to save life, even when the acid-base balance as shown by subsequent blood examination seems to be restored, is explained at autopsy when ulcerative intestinal lesions or well marked degenerative changes are found in the kidneys, liver and heart muscle.

Acidosis due to anhydremia is prompter in recovery than the type that is due to acetone bodies.¹² The early restoration of the circulation is advisable in relieving acidosis caused by lactic acid. Glucose, 6 per cent solution, 20 c.c. per pound of body weight, and water by mouth or nasal drip, are recommended by Hartmann. At the Children's Hospital, Boston, a 10 per cent solution of glucose is used in about half this quantity, 10 c.c. per pound of body weight.

Hartmann has urged that bicarbonate rather than chloride is needed in dehydration when the plasma chloride is already too high, as is the case in acidosis. He has made the unique suggestion that a solution of racemic sodium lactate, 5 to 7 c.c. per kilo of body weight (2.3 to 3 c.c. per pound), can be used in any case, whether acidosis or alkalosis exists. Sodium lactate becomes converted into bicarbonate and is available if needed. The plasma lactic acid as well as sugar rises promptly by its use. Sodium lactate is not advisable if the kidneys are impaired severely, for alkalosis may be caused by the increased bicarbonate which this produces.

Gamble feels that the kidney will deal separately with bicarbonate and chloride so as to supply the respective deficits in the blood in acidosis or alkalosis. If the kidneys can be made active, the levels of base and acid in the plasma with normal bicarbonate will be built up by plenty of water and sodium chloride.

Cases without evidence of much change in the pH of the blood will be best treated in the general way above discussed. When symptoms of acidosis or alkalosis or evidence other than symptoms (change in the blood chemistry) are present, it is well to use those methods which in addition to restoring water volume will bring back the normal acid-base equilibrium or ratio. The following summary may serve a useful purpose, showing the indications for treatment in certain severe cases:

DEHYDRATION WITH ALKALOSIS

Cause	If Vomiting Predominates	Oliguria	Treatment
Usually vomiting	Great loss of chloride (acid) and of mucus and gastric secretion	Failure of kidneys to secrete	Lavage of stomach with Ringer's solution
Loss of water and gastric juices	Low chloride in plasma		Salt solution by parenteral methods, about 15 c.c. per pound of body weight

DEHYDRATION WITH ACIDOSIS

Cause	If Diarrhea Is Chief Factor	Failure of Kidneys to Excrete	Intravenous Glucose Solution
Usually diarrhea	Much loss of succus entericus	High Retention of Urea Nitrogen, nonprotein nitrogen and acid sodium phosphate	Buffer solution (Hartmann's) by hypodermoclysis
	Loss of base bicarbonate by stools		Water by mouth
Loss of water and intestinal juices	Retention and great increase of plasma chloride		Do not use large amounts of salt solution

Bicarbonate of soda by the mouth and Hartmann's buffer solution subcutaneously offer easy methods of introducing agents to combat acidosis. The child however may be in extremis or in a severe state of infection or degeneration from which recovery is impossible.

In favorable cases when sufficient fluids have been introduced the urine returns, the eyes are no longer sunken, the skin becomes moist and elastic, the mucous membrane moist, and an increase in body weight begins to appear.

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SIGNIFICANT HEMORRHAGIC RETINAL LESIONS IN BACTERIAL ENDOCARDITIS

William Brown Doherty and Max Trubek, New York (*Journal A. M. A.*), call attention to the fact that the characteristic elliptic retinal hemorrhages with white centers occur in the bacterial endocarditis, acute and subacute, and in the severe anemias, notably pernicious anemia. The discovery of this lesion because of its significant appearance may aid in early diagnosis. The lesion occurs in both eyes, with a little greater frequency in the left eye. The lesion has little prognostic value in subacute bacterial endocarditis; in several instances it had appeared and disappeared in successive crops many months before death. The authors suggest that the designation "retinitis of endocarditis" might after further study be appropriately applied.

BLOOD PICTURE IN SIX HUNDRED CASES OF GOITER

From a study of 600 cases of goiter, ARNOLD S. JACKSON, Madison, Wis. (*Journal A. M. A.*), draws the following conclusions: The blood picture in hyperthyroidism does not vary essentially from that in the normal person. The differential blood count in hyperthyroidism is not of diagnostic and prognostic significance. There is not a definite relationship between the blood picture and the basal metabolic rate. The lymphocyte count is not varied by an increase or a decrease in metabolism. The blood count is not influenced by the severity of the disease, considering metabolism and weight loss as paramount factors. A secondary anemia is not typical of hyperthyroidism. A leukopenia is not characteristic of hyperthyroidism. Sex and age do not influence the blood picture in toxic goiter. In spite of clinical improvement, no appreciable change was observed in the blood count following the use of iodine in hyperthyroidism. The only appreciable change in the differential blood count in goiter was observed following thyroidectomy for exophthalmic goiter. An increase in the polymorphonuclear count and a decrease in the lymphocyte count occurred. The author does not believe that the blood picture in hyperthyroidism is of any practical clinical importance.

MENINGITIS CAUSED BY FRIEDLÄNDER'S BACILLUS

According to KARL ROTHSCHILD, New Brunswick, N. J. (*Journal A. M. A.*), cases of meningitis caused by *Bacillus mucosus-capsulatus* (Friedländer's bacillus) are usually fatal. Only three cases in which the patient recovered have been reported; in all these the diagnosis is not satisfactorily confirmed. The author presents a case in which Friedländer's meningitis was associated with a subdural abscess, following mastoiditis. The same micro-organism was found in cultures of the abscess and of the spinal fluid. By bacteriologic tests the micro-organism was identified as *Bacillus mucosus-capsulatus* (Friedländer's bacillus), with the characteristics of the most frequent type of this group. The patient recovered completely, representing the first case with recovery reported in the American literature and the first nonfatal case in general in which definite bacteriologic tests were made. A survey of the literature is also presented.

COSMETICS *

NORMAN TOBIAS, M.D.

ST. LOUIS

The use of cosmetics as an art is as old as civilization itself. The preservation of youth and the concealment of age have always been powerful human instincts, and in spite of criticism by medical and ecclesiastical authorities the practice has grown until cosmetics today are in universal use and the foundation of probably the fourth largest industry in the United States.

Along with the great demand for cosmetics in the past ten years, hundreds of new preparations have been introduced, some of which have proved to have toxic properties. Unfortunately, the public is not protected by the Federal Pure Food and Drug Act since cosmetics do not come within the definition of a drug and the presence of dangerous substances and false statements made for them remains unchallenged legally.

The number of reported cases of injuries from hair dyes and cosmetics became of sufficient importance for the House of Delegates of the American Medical Association in May, 1924, to adopt a resolution calling for action to protect the public against their exploitation and to seek suitable legislation to that end.¹ Already, the better manufacturers have cooperated, and many cities and states have enacted laws dealing with this phase of public health. In these matters we are far behind European countries. Germany has prohibited white lead in face powders for the past forty years, while France and Austria, as well as Germany, have forbidden the sale of paraphenyldiamine dyes.²

The History of Cosmetics.—Down through the ages the use of cosmetics has kept pace with the rise and fall of empires. There is meager information that the peoples of the Far East were well informed concerning dyes and other secrets of personal adornment, but we must rely upon the Egyptians for information of historical interest among early peoples. Recent discoveries and explorations have revealed information that the Egyptian women massaged their bodies with aromatic oils and ointments to keep the skin supple and glistening. In the toilet of their hair they employed olive and almond oils. The art of perfumery reached a high stage of perfection among these peoples, and myrrh, thyme and frankincense were used for personal as well as religious purposes. To further enhance their charms it is said they

rubbed red and white clay from the Nile on their faces and bodies, and even painted their eye lashes and eyelids black with an antimony compound. It was also the custom to color the nails as well as the palms and soles with henna, a vegetable dye which even today is imported from Egypt and used as a hair dye. The use of cosmetics in Egypt probably reached its zenith during Cleopatra's reign.³

With the fall of Egyptian civilization and the rise of Grecian culture the Greeks elaborated somewhat on the Egyptian scheme of personal adornment, but gave more attention to hydrotherapy and the use of incense.

The Romans acquired most of the customs of the Greeks but carried them to further extremes. The Roman ladies were very adept in the use of cosmetics and many of the preparations used in the early eras are in use today. To whiten their skin they applied chalk and white lead and pumice stone was used to whiten the teeth. They, too, enticed the male with red coloring on their cheeks and lips. The use of a mixture of butter and flour for various skin and scalp disorders and the art of preparing pomades are credited to the Romans.

The peoples of Northern Europe were not interested in cosmetics because they led a more active and outdoor life and had no leisure class, but we must credit the Gauls with the invention of soap. It is said that they made a mixture of oil and wood ash and used it as salve in skin diseases. It was several centuries later that the detergent properties of this mixture were accidentally discovered.

The beautiful women of Spain and Italy in the Middle Ages were also considerably interested in cosmetics. The Italian women relied on the dark red juice of the fruit of the deadly nightshade, the belladonna of today, to beautify their eyes, while the Spanish were great users of saffron, vermilion, and cochineal, dyes which were used in paints and powders. Their beauty secrets were often in demand by the French and English ladies.

The French from early times attached much importance to cosmetics. In fact, Albertus Magnus, a Dominican monk of the thirteenth century, was one of the first to write a volume on cosmetics, "De Secretis Mulierum." The French went to Spain to learn more about their use and the mode spread throughout the country. Du Barry and Pompadour are said to have lost much of their beauty from the excessive use of white lead in face enamels in use at that time.

The English women were late in adopting the custom of using cosmetics, but during the reign of Queen Elizabeth they gave more attention to the practice. At that time it was

* Read, in part, before the St. Louis Medical Society, February 17, 1931.

common to take milk baths to improve the condition of the skin. For powder puffs the women used a hare's foot. The women of the better class carried a book of Spanish papers saturated with powder, the leaves being torn out and applied to the face.

It is a sad commentary to note that men as well as the women painted and rouged their faces in this period of English history. A reaction soon set in, so that in 1770 the British Parliament passed the following law prohibiting the use of cosmetics:

All women of whatever age, rank, profession or degree, whether virgins, maids or widows, that shall impose upon, seduce and betray into matrimony any of his Majesty's subjects by scents, paints, cosmetics, washes, artificial teeth, false hair, Spanish wool, iron stays, hoops, high heeled shoes, bolstered hips, shall incur the penalty of the law in force against witchcraft and like misdemeanors, and that the marriage upon conviction shall stand null and void.

The English always gave special attention to the hair. Dillon⁴ states that hair dyeing was fairly common among the early Saxons, many of the warriors dyeing their beards blue, red, or orange. In the seventeenth century it was quite the fashion of the time to powder the hair with orris powder, flour, or clay. The more stylish women used colored powders, especially at the time of the Restoration, but this custom received a death blow in 1795 by Pitt who introduced a law placing high taxes on the importation of cosmetics. Later the use of wigs and the Elizabethan style of hair dressing increased the number of parasitic diseases of the scalp in England. At the height of cosmetic adornment in England, Samuel Pepys entered this line in his famous Diary on May 11, 1654: "I now observed how the women began to paint themselves, formerly a most ignominious thing, and used only by prostitutes."

In the United States, cosmetics never gained a strong foothold among the devout settlers of the New England States but were probably used to some extent in the Virginias and the Carolinas. The first beauty parlor in America was established in Philadelphia in 1868. The following table shows the great increase in the use of cosmetics in the past fifty years:⁵

Year	Number of Beauty Parlors	Value of Products Used
1879	67	\$ 2,203,000
1899	262	7,000,000
1919	569	59,613,000
1929	30,000	200,000,000

The medical profession of this country has at various times issued ultimatums in the lay and medical press against the use of cosmetics by American women. Chief among these may be mentioned Cunningham⁶ who said: "Any woman who blindly daubs her skin with a cosmetic of unknown composition runs the risk of a long period of ill health and torture; perhaps of permanent disability and death. The

melancholy fate of many painters and plumbers and other manipulators of lead is a matter of record." But these entreaties have been in vain for, next to France, America uses more cosmetics than any other nation on the face of the globe.

COSMETICS AND THEIR COMPOSITION

The composition of some of the common cosmetic preparations sold to the public may be of interest.

Face powders. Precipitated chalk, talcum, kaolin, magnesium stearate, magnesium carbonate, starch (rice, corn, or wheat), orris root, lead carbonate, bismuth subnitrate, zinc oxide.

Rouge. French chalk, talc, acacia, tragacanth, dyes.

Lip stick. Paraffin, lanolin, spermaceti, dyes (carmine, fuchsin, cudbear, phloxin, eosin, geranium red), perfume.

Cold creams. Spermaceti, white wax, petrolatum, oil of bitter almond, tincture benzoin, peroxides, witch-hazel, cucumber juice.

Vanishing creams. Stearates (ammonium, sodium, or potassium), potassium carbonate, glycerine, perfume.

Massage creams. Casein, tragacanth, starch, Irish moss, quince seed, agar-agar, glycerine, boric acid, sodium benzoate, formaldehyde, alum.

Hair tonics. Grain alcohol, wood alcohol, quinine, sodium salicylate, tincture cantharides, tincture Capsicum, resorcin, thymol, pilocarpine, arsenic trioxide, castor oil, bay rum, Quillaia.

Hair dyes. Henna, indigo, pyrogallol, sage, silver nitrate, ferric chloride, copper, nickel or cobalt chlorides, lead acetate, paraphenylenediamine.

Hair bleaches. Ammonia, hydrogen peroxide.

Dye removers. Sodium hypochlorite, potassium cyanide, oxalic acid, hydrochloric acid.

Brilliantines. Glycerine, castor oil, alcohol, perfumes.

Antikink creams. Beef suet, yellow wax, castor oil, benzoic acid, perfume.

Shampoo powders. Borax, powdered soap.

Hand lotions. Tragacanth, acacia, glycerine, quince seed, tincture benzoin, sodium borate, alcohol, perfume.

Toilet waters. Grain alcohol, wood alcohol, perfume oil (oil of lavender, lemon, neroli, violet).

Toilet soaps. Vegetable oils (palm, olive, coconut, cotton seed, poppy seed, corn, peanut), animal fat derivatives (stearic acids, stearates), free alkali.

Superfatted soaps. Lanolin, saponified fat.

Medicated soaps. Tincture benzoin, oil of

pine, sulphur, peroxide, phenol, resorcin, mercuric iodide, tincture iodine, witch-hazel.

Freckle removers and face bleaches. Bichloride of mercury, ammoniated mercury, bismuth subnitrate, lactic acid.

Wrinkle removers. Alum, borax, zinc sulphocarbolate.

Flesh foods and skin tonics. White wax, spermaceti, lanolin, casein, mineral oil, dyes, perfumes.

Depilatories. Arsenic bisulphide (orpiment), sulphides (sodium, ammonium, barium, calcium, strontium), thallium acetate, alum, talc, starch, perfume. The wax depilatories contain beeswax and resin.

Deodorants. Aluminum chloride, salicylic acid, benzoic acid, borax.

Beauty clays. Clay, kaolin, fuller's earth, alum, tincture benzoin, witch-hazel.

Nail polishes. Tin oxide, cinnabar, putty.

Cuticle removers. Oxalic acid, sodium hydroxide.

Nail polish removers. Amyl acetate, acetone, ether.

THE INJURIOUS EFFECTS OF COSMETICS

The list of dermatoses due to external causes is so large that one is impressed with the importance of having a list of irritants available for reference. Two pamphlets issued by the American Medical Association contain much information concerning cosmetics and their irritating properties. One of these is titled "Cosmetic Nostrums and Allied Preparations,"⁷ the other is a reprint, "A List of Cutaneous Irritants," by L. F. Weber,⁸ which lists several brands of hair dyes, hair tonics, bleaches, creams, powders, rouges and miscellaneous products that have been reported as having injurious effects.

The various drugs used in cosmetics may act in one of the following ways to produce clinical phenomena: allergy, hypersensitiveness, local irritation, toxic absorption and physical action.

ALLERGIC EFFECTS

Practically all face powders contain orris root, which is used as a perfume fixative and is a recognized common allergen. This substance is also present in tooth powders, tooth pastes, rouges and sachets. It is sometimes used in powder form by the laity to remove oiliness in the scalp. It is a difficult allergen to control, since women's clothes and the atmosphere where women congregate are usually saturated with this substance. Orris root is the commonest protein that comes in contact with the nasal and bronchial mucous membranes and may produce the following symptoms in those sensitive to it: rhinitis, coryza,

hay-fever, asthma, conjunctivitis, irritation of the eyelids, dermatitis, pruritus. In a series of cases compiled by Balyeat,⁹ orris root was the sole or a definite contributing factor in 12.25 per cent of 1000 cases of hay-fever and asthma. Freudenthal¹⁰ recently reported a case of bronchial asthma due to rouge which contained orris root. Skin hypersensitiveness to this substance usually shows itself after a long period during which the cosmetic may be well tolerated. In the diagnosis of suspected allergy, the patient should be tested routinely with orris root, using the patch, scratch and intradermal methods. Treatment should include desensitization with specific orris root therapy and the prescription of orris root-free cosmetics. Other substances in face powders which may cause allergy are lycopodium and rice, wheat or corn flour. Duke¹¹ has also shown that the allergic state can be produced by certain perfumes. A common ingredient of vanishing creams, casein, may produce the allergic state in the predisposed individual.

HYPERSENSITIVENESS

In this group I include those inflammatory skin changes occurring from the use of certain substances but the skin changes apparently are not due to the allergic mechanism and are not subject to the process of desensitization.

Quinine.—This drug is frequently used in hair tonics but there is no scientific foundation for its use as a hair stimulant. It is also used as a denaturant by the Bureau of Prohibition in the denatured grain alcohol supplied to the cosmetic industry. Other formulae contain sodium salicylate and diethylphthalate as denaturants. Recently, Burgess and Usher¹² have reported a series of cases of quinine hypersensitiveness in patients using shaving lotions containing quinine-denatured alcohol. The cutaneous manifestations of quinine hypersensitiveness usually consist of erythematous or urticarial eruptions.

Perfumes.—Since perfumes consist of a mixture of anilines, aldehydes and alcohols, it is very difficult to determine the offending substances in cases of dermatitis due to their use. The activating effect of ultraviolet light on these chemical substances applied to the skin must also be considered. This phase of the subject has been studied by Babalian,¹³ of Paris. Pruritus, evanescent erythemas, acute dermatitis, or lichenification may occur. McCafferty and Genovese¹⁴ recently reported a case of dermatitis of the nipple which developed from the daily application of perfume. In their report they also mentioned a case of keloid that developed from a dermatitis induced by the same substance. Brilliantines are

also causes of localized dermatitis and folliculitis in certain individuals.

Dyes.—Most of the dyes used in cosmetics are water-insoluble, stable aniline derivatives and are often government certified colors. Ill effects from their use are rare except in hypersensitive individuals. Lip stick dermatitis is occasionally encountered and is often due to irritation from the dye. The natural dyes, such as burnt sienna, cantharmin (safflower), carmine (cochineal) are much safer. The aniline dyes commonly used in cosmetics are eosin, rhodamin B, erythrosine, fuchsin, phloxin, geranium red and Bismarck brown. Miller and Taussig¹⁵ have reported cases of lip stick dermatitis due to carthamin and eosin.

Salicylic and Benzoic Acids.—Idiosyncrasy to these acids is rare. They are often present in creams to prevent rancidity.

There is a large group of other substances commonly used in cosmetics which are not primarily toxic but which may produce a local sensitization of the skin. In testing out local sensitization, test solutions or ointments are used in dilutions which will not produce any reaction on a normal skin. I use the following dilutions of common drugs routinely in cases of suspected local sensitization as advocated by Kesten and Laszlo:¹⁶

Bichloride of mercury, 1:2,000 aqueous solution.
Paraphenyldiamine, 10 per cent alcoholic solution.
Eosin, 1 per cent alcoholic solution.
Orris root, 10 per cent in white vaseline.
Resorcin, 1 per cent alcoholic solution.
Ammoniated mercury, 5 per cent in white vaseline.
Quinine sulphate, 1 per cent aqueous solution.

The technic employed is the Judassohn "patch test." A 3 cm. square of cellophane is covered with a 4 cm. square of adhesive tape and under the center of this is placed a 1 cm. square of 4-ply gauze which is well saturated with the test substance. This is applied to the side of the abdomen or the lower posterior chest, which has been previously cleansed with grain alcohol. The patch remains in place 24 hours. A positive reaction consists of a well defined pruritic inflammatory area covered with papules vesicles or even bullae on the test site. The reaction may occur earlier or as late as 72 hours, persisting for a variable period. The patch test has the advantage of prolonged contact of the suspected substance with the skin. It is a test of the sensitivity of the *epidermal cells* rather than of the cells of the *cutis* and *capillaries* for which the scratch and intradermal tests are used. It can also be used in occupational dermatitis where external excitants are suspected.

LOCAL IRRITATION

This is by far the commonest effect produced by certain cosmetics and may or may not be as-

sociated with the symptoms of toxic absorption.

Soaps.—There is no soap produced that may not be irritating to some skins, especially if they are dry or have a tendency to be ichthyotic. There appears to be a fad among women at the present time, almost amounting to a superstition, that the use of soap and water is a noxious practice and that creams should be substituted for cleansing purposes. That this theory is harmful is proved by the large number of cases of seborrheic dermatitis and acne simplex that come to the attention of the dermatologist with just such a history. The resulting oiliness and obstruction of the glandular openings prepares the soil for the growth of the micrococcus of Unna and the Staphylococcus albus. Soap also destroys the Demodex folliculorum, a parasite that is found in the oil glands of the normal skin and under certain conditions may produce eczematoid changes.

Soaps that produce irritation in normal skins may contain cocoanut oil, a lather producer, "fillers," such as starch and talc, or an excess of alkali. The latter is a common condition in cheap soaps in which inferior fats are used. Good toilet soaps should not contain more than 0.25 per cent free alkali. Even cheap imitation domestic "Castile" soaps may be adulterated with such irritating oils as cocoanut, peanut or cottonseed oils. The patient who develops a soap dermatitis should use superfatted soaps which contain lanolin or an excess of saponified fat.

Pyrogallol.—This vegetable nut extract, known also as pyrogalllic acid, is used alone as a hair dye or in conjunction with metallic salts as a developer. It often produces a dermatitis, or may cause symptoms due to absorption. This dye only coats the outside of the hair shaft in time fading and may cause the hair to become lusterless and brittle.

Paraphenyldiamine.—This aniline synthetic fast dye, known as ursol in the trades, is also used in the fur, cloth and artificial hair industries. It is an important ingredient in most of the popular hair dyes on the market. Its value depends on the fact that it produces a beautiful shade of black or brown and penetrates the hair shaft instead of forming an outside coating.

It is estimated that about one person in one hundred is susceptible to this dye. Knowles,¹⁷ McCafferty¹⁸ and numerous other writers have reported cases and described the harmful effects of paraphenyldiamine. The skin manifestations may occur within 24 hours of its application and consist of itching, dermatitis of the face, often associated with edema of the eyelids, and even generalized dermatitis. This toxic action is believed to be due to an inter-

mediary product of oxidation, quinone. Systemic intoxication often results. Nott¹⁹ has described toxic symptoms from the dye without the appearance of skin manifestations. Since 1883 so many reports of its toxicity occurred in Europe that Germany, Austria and France have prohibited its sale.

If the dye must be used it should be compulsory for the dyer to apply the Saboraud-Rosseau sensitivity test on the skin. This consists of applying a small amount of the dye over the mastoid region or the nape of the neck and then waiting 24 hours for irritation to develop.

Sulphites.—The sulphites of calcium, barium, sodium, strontium and magnesium are used exclusively in depilatories to remove superfluous hair. In powder form they are more stable than in liquid form. They act by disintegrating the cellular structure of the hair but do not affect the papilla so that their action is but temporary. Sulphite depilatories may cause a severe dermatitis if carelessly used on an irritated skin, if applied over too long a period of time, or if an idiosyncrasy is present.

Mercury.—Freckle creams and face bleaches depend for their action on mercury in the form of the bichloride or the ammoniated salt. They may contain bismuth subnitrate also. The resulting dermatitis may be followed by desquamation but the pigmented areas usually remain. In fair-skinned persons a severe dermatitis with vesiculation may occur and even toxic symptoms may develop. The continued use of face creams containing mercury may produce slate-colored patches on the skin, a condition first described by Goeckermann²⁰ in 1922.

TOXIC ABSORPTION

The most serious results from harmful ingredients in cosmetics are those due to toxic absorption with the production of acute or chronic symptoms of poisoning. In some cases the symptoms may manifest themselves early, while in other cases years may elapse before the continuous use of the drug produces clinical symptoms of toxicity.

Lead.—The metallic salts of lead, especially the carbonate (flake white), were used in face powders and enamels to a much greater extent in the past than they are at the present time. Lead is employed as a base and also to give a brilliant white luster to face powders and enamels. In the form of the acetate (sugar of lead) it has for years been one of the chief ingredients of many commercial hair dyes. Combining with the sulphur of the hair it forms a lead sulphide which is deposited on the hair shaft as a black film. The symptoms of lead poisoning are too well known to mention here.

Germany has prohibited the use of lead dyes for forty years, and eventually all countries will probably prohibit their use in cosmetics. In Japan many of the poorer classes use practically pure white lead as a face powder, and by absorption through the skin as well as by inhalation serious cases of poisoning have occurred.

Heavy Metals.—The salts, especially the chlorides, of copper, nickel, bismuth and cobalt are frequently used in hair dyes. Their continuous use may produce systemic poisoning. Silver chloride is also an ingredient of several hair dyes and the possibility of the production of an argyria must not be overlooked.

Potassium cyanide and oxalic acid, both powerful poisons, are occasionally used as dye removers. They are absorbed through the skin, and their use cannot be too strongly condemned.

Wood Alcohol.—Before the advent of prohibition, when grain alcohol was relatively expensive, many manufacturers of hair tonics and toilet waters adulterated their products with wood alcohol, which resulted in many cases of poisoning from this dangerous substance. At the present time this poison is not being used since the prohibition department is lenient in its distribution of denatured grain alcohol.

Arsenic.—Solutions of arsenic have no therapeutic effect upon the skin or its appendages when used locally in weak dilutions, but many hair tonics include it in their formulas, usually in the form of the trioxide. Since many persons use hair tonics for months and even years, it is small wonder that cases of arsenical poisoning are often reported.

In the Orient and Eastern Europe a mixture of arsenic bisulphide and slaked lime called "rushma" is used as a depilatory. It was especially popular among the women of the Turkish harems.

Thallium.—Since Buschke²¹ introduced thallium acetate in 1926 as a depilatory in ringworm of the scalp, the dangers of its use in adults have been pointed out repeatedly. It is given per os in suitable cases to produce a defluvium of the hair, but recently has been incorporated in pomades for local application in hypertrichosis. In France where this depilatory was first used, so many cases of poisoning developed with the symptoms of vomiting, diarrhea, chills and fever, and even death that Sabouraud²² advised against its use unless applied by the physician according to his original technic. A depilatory containing this salt has been on the American market for the past year and has received unfavorable comment from the A. M. A. Bureau of Investigation.²³

PHYSICAL EFFECTS

Fats and Oils.—In the cosmetic industry three classes of fats and oils are used: those of vegetable origin (beeswax, palm, olive, castor, corn and cotton seed oils); animal origin (lanolin, eucerin, spermaceti, lard, beef suet, glycerine); mineral origin (paraffin, petrolatum, mineral oil). They are used as a base in cold creams, "skin foods and tonics," "muscle oils" and various other preparations. Creams should be dispensed in collapsible tubes to prevent bacterial contamination and rancidity.

McKenna²⁴ has advanced the theory that the continued use of creams having a paraffin base may have carcinogenic effects but no clinical evidence has been produced as yet to prove this. Similarly, gastro-enterologists have looked upon the laxative, mineral oil, as a possible factor in the etiology of alimentary carcinoma. Francis Carter Wood²⁵ has recently shown experimentally that there is no evidence to warrant this assumption, mineral oils being practically inert and nonirritating.

Actors who must employ theatrical creams and rouges excessively are often subject to acne and seborrheic dermatitis, a condition which results from the clogging of the oil glands with excessive fats. Soap and water, followed by a brisk rub, should be routinely employed at night by those who use facial creams in order to prevent any ill effects from their use.

Borax contains ten molecules of water of crystallization, which give it hygroscopic properties. It is used in shampoo powders, which also contain powdered soap, to give a fluffy appearance to the hair. Its continued use will make the hair dry and brittle. Boric acid and the borates are also found in hand lotions, face creams and wrinkle removers as an antiseptic, astringent and preservative to prevent rancidity in animal fats. Its daily use in excessive amounts may produce irritation of the delicate glandular linings of the sweat glands, thereby interfering with their proper secretion.

Hydrogen Peroxide.—This drug is often incorporated in what is commercially known as peroxide creams but an analysis of these products often shows peroxides to be missing, so unstable are they. Hydrogen peroxide with ammonia as a catalytic agent is often used as a bleach to give blond hair a golden glint and to make superfluous hair inconspicuous. If used excessively, it has the disadvantage of making the hair dry and brittle and may cause it to break off readily.

LEGAL REGULATIONS

There are no Federal laws at present regulating or prohibiting the use of dangerous

chemicals in cosmetics, such as paraphenylenediamine, lead, mercury and arsenic. The "Copeland Bill," now pending before Congress, aims at dangerous drugs in cosmetics and misleading advertisements. Twenty-one states have laws regulating sanitation only in beauty parlors and barber shops. Wisconsin has a law prohibiting the use of harmful ingredients in cosmetics which is enforced by the state department of health. New York City has recently passed a law prohibiting aniline hair dyes to be sold or used unless the customer is warned of the possible dangers of toxicity and a preliminary sensitization test made.

Missouri enacted a law in 1929, sponsored by the State Board of Health, which among other rules and regulations governing beauty schools and beauty shops, touches upon the following points: no person with a communicable or venereal disease shall attend any patron; no operator shall attend any patron suffering from a contagious disease; no open powder boxes shall be used; creams shall not be removed from receptacles with the fingers.

The regulations also govern the cleansing and sterilization of instruments.

REPORT OF CASES

Case 1. V. C., aged 32. Lichenified areas on sides of neck caused by perfume. Patch test was positive.

Case 2. E. D., aged 22. Diagnosis, follicular eruption of scalp and on the shoulders caused by brilliantine. Patch test was positive.

Case 3. W. H., aged 35. Diagnosis, erythematous eruption on face caused by face powder. Scratch test was positive for orris root. Use of orris root-free powder has kept patient free of eruption.

Case 4. G. B., aged 24. Diagnosis, follicular eruption on forehead caused by brilliantine. Cleared up after cause was removed.

Case 5. J. K., aged 16. Diagnosis, cheilitis caused by lip stick. Patient changed brand and has been free since then.

Case 6. E. P., aged 45. Diagnosis, angioneurotic edema of lower lip caused by hair tonic. Patch test was positive for quinine.

Case 7. M. C., aged 16. Diagnosis, acne vulgaris caused by theatrical cream. Condition would not improve because patient continued to use heavy creams in her work as actress.

Case 8. B. C., aged 26. Diagnosis, dermatitis of hands caused by hair tonics. In her work as hair dresser patient came in contact with several hair tonics. Patch test with .5 per cent resorcin was strongly positive.

Case 9. T. D. S., aged 46. Diagnosis, dermatitis of scalp caused by hair dye. Contact test with 1 per cent paraphenylenediamine was positive.

Case 10. L. G., aged 34. Diagnosis, dermatitis of face caused by face powder. Qualitative test was positive for lead. Orris root tests were negative.

Case 11. H. M., aged 28. Acute dermatitis of scalp, neck and ears caused by hair tonic. Patch test with 1 per cent aqueous solution resorcin produced severe reaction.

837 Missouri Building.

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WASHINGTON FOUGHT ILL HEALTH DURING ENTIRE LIFETIME

Despite the fact that George Washington came through history pictured as a stalwart figure, a careful survey of old documents shows that he had a struggle to keep himself healthy enough to do the great amount of work that he accomplished during his lifetime, relates James Hay, Jr., in "George Washington's Conquest of Physical Handicaps" in *Hygeia, the Health Magazine*.

It is safe to assume, says Mr. Hay, that if Washington had not lived in the open air and exercised the greatest care and moderation in eating, his life span would have been far shorter.

Washington suffered repeated attacks of fever. At one time while on the Braddock Expedition against the French he had to be left along the road to await another detachment because he was too ill to travel. Shortly after he was elected president he was ill with a malignant carbuncle and it seemed for a time that the condition was incurable.

Washington's hearing had partially failed him in later years, and he wore glasses after middle life. In his twenty-ninth year he had a number of defective teeth and when he was 57 he was using many false teeth.

THE PROBLEM OF STATE CARE OF THE MENTALLY SICK

THE URGENT NEED OF EFFORTS FOR THE PRESERVATION OF MENTAL HEALTH*

M. P. OVERHOLSER, M.D.

HARRISONVILLE, MO.

The proper care and treatment of the mentally afflicted is a great problem which must be met and solved for the welfare of humanity. The magnitude of the responsibility of this worthy work is perhaps only faintly realized by most of the citizens of our country. Facts and statistics by the most reliable authorities may, however, give us a clearer insight into some of the grave responsibilities resting upon the people, not only in the State care and treatment of the mentally sick but also in the important duty and obligation to conserve and preserve the mental health of the people. This obligation of the citizens of a state has been well emphasized by the recent State Survey Commission, by our Governor, the State legislators and other state authorities who have called the attention of the voting citizens and tax payers, as well as business and educational organizations, to the urgent necessity of providing the necessary means for the proper housing, maintenance, care and treatment of the mentally afflicted citizens of Missouri. All the other states are confronted with the same problem. I will say for your information that in all hospitals of our land, including general hospitals, city, county and private hospitals, and sanatoriums, more than one-half of the total number of beds in all these institutions are occupied by patients suffering from mental disorders. In the mental hospitals of Missouri there are over eleven thousand of these cases at the present time and a large number in private sanitariums in Kansas City, St. Louis and other large cities throughout the State.

Table 1. Showing Number of Cases at Each of the State Hospitals

Number of Cases	Hospital
1668	.....State Hospital No. 1, Fulton
2441	.....State Hospital No. 2, St. Joseph
1705	.....State Hospital No. 3, Nevada
1045	.....State Hospital No. 4, Farmington
1051	.....Missouri State School (for Epilepsy and Feeble minded), Marshall
3365	.....St. Louis City Sanitarium

Total 11,275

During the past year seventy thousand or more citizens of this country were forced to

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give up the battle of life and were placed for the first time in institutions for the care and treatment of the mentally afflicted. During the coming year and each succeeding year thereafter under the present existing conditions seventy thousand or more citizens must be added annually to this number and be placed among the first admissions to mental hospitals.

There are now in the United States over 350,000 citizens, many of whom are today going about their daily duties in the home, on the farm, in the shops, factories, offices, schools and universities who must find their place in mental hospitals within the next five years.

The cost of maintaining this great army of mental patients each year is equal to the combined value of the exports of wheat, corn, tobacco, beef and dairy products.

In 1880 the rate for patients in state hospitals in the United States was 63.7 per one hundred thousand population. In 1928 the rate was 221.4 per one hundred thousand population. Today the rate of increase of mental patients in the United States is more than three and one-half times greater per one hundred thousand population than it was fifty years ago. These figures do not include mental patients in our Federal hospitals and private sanitariums, only those in state hospitals. The annual cost of maintenance of patients in state hospitals including several Federal hospitals for the fiscal year ending 1928 was \$77,731,015. A fair estimate of the total economic loss to our country by reason of disability, or loss of earning capacity of the citizens of our states, from mental disease is over one-fourth of a billion dollars every year.

Someone has said that the greatest thing in the world is the human mind, capable of perception, conception, thought, ideation, mental analyses, mental association, consciousness, memory, reasoning, judgment, volition, with an almost endless number of different kinds of emotions, or feelings, with marked variations in degrees of intensity, ranging from one of the greatest emotions of love to the basest and bitterest emotion of hatred; from feelings of ecstatic joy to the deepest and darkest gloom of despondency and despair. No other living functioning power, or inanimate mechanical device, contrivance or construction can be found anywhere which is capable of such marvelous powers as the human mind—the greatest gift of our Creator to the world and to mankind, which man should ever seek to preserve and save from mental and moral degeneration, yet the greatest wreckage in the world today is the wreckage of human minds.

Statistics show more persons in hospitals

than in colleges and universities. Dr. Frankwood E. Williams, medical director of the National Committee for Mental Hygiene, says that in the State of New York there is a net increase of nearly two thousand mental cases every year. The records show in the State of New York that 8,838 new mental patients were admitted to the state hospitals in the year 1928 which was an annual increase of mental patients of 2,335. During the year 1929 the total number of new admissions was 8,732, which was an additional increase of total number of patients of 1,679. The total number of patients in the state mental hospitals of New York on Feb. 26, 1931, was 47,126, with 4,837 on parole, making a total number of mental cases under supervision of 51,963. Although New York has sixteen state hospitals for the insane, one of them containing over seven thousand patients, Dr. Williams says it would be necessary for the state to construct a new mental hospital every two years to keep abreast with the increasing inflow of new patients. However, as this is not done, there is a serious overcrowding of patients in the New York state hospitals amounting to over 30 per cent. In Ward's Island Hospital with a normal capacity of 4,800 patients there are now 7,000 patients. At Central Islip with a capacity of approximately 4,000 patients there are 6,000 patients. New York is now discussing the problem of building a new hospital with a capacity of 10,000 beds or a number of smaller hospitals to accommodate this large number of patients. This same percentage of serious overcrowding of these patients exists in the state hospitals of Missouri, and in most of all other states of the Union. Dr. Ray Lyman Wilbur, Secretary of the Interior, says, "We now talk in terms of millions in connection with mental cases."

Today in every seventh family in the United States, on an average, it is said there is one individual with a more or less serious mental ailment. Of the fifteen thousand or more suicides in the United States every year perhaps two-thirds of this number suffer from some permanent mental disorder, the remaining number suffer from some temporary mental or emotional disturbance which leads them to take their lives.

Mr. Homer Folks, secretary of the State Charities Aid Association of New York, says, "Mental disturbance imposes a heavier load on the shoulders of a community, thwarts more legitimate hopes and plans, breaks up more families and creates more unhappiness than any one factor of modern life." Many of us may not be able to realize the significance or truth of this statement without an interpreta-

tion of its true meaning. Mental disturbance does not always mean insanity as we understand the meaning of the term insane. There are many mental disturbances in the lives of so-called normal individuals which are the cause of much financial distress, poverty and unhappiness. Mental or emotional disturbances are at the bottom of banditry, murder, homicide, suicide, robbery, theft, racketeering, and a long list of criminal acts, as well as an almost endless number of different kinds of bad behaviorism or disorderly conduct in all communities.

Available statistics indicate that about one-half million men, women and children enter correctional and penal institutions each year in the United States, and while estimates of the cost of crime vary it undoubtedly reaches billions of dollars annually. The last annual report of the Federal penal institutions shows a net increase of Federal prisoners of 27 per cent for the fiscal year ending June 30, 1930. Statistical reports show that while the increase in the general population in Missouri during the last ten years was 6.38 per cent, the population of its state hospitals during this same time has increased 37 per cent.

What a waste of human efficiency, what a great financial burden and economic loss and what untold human suffering result from mental disease, criminality and emotional disturbances of individuals.

These are simply plain, true statements, facts which cannot be questioned. Simple information as to conditions, not exaggerated statements of extremists or alarmists, but facts gathered from the most reliable sources of our country. There is nothing constructive in a simple knowledge of these conditions, nothing but evidences of a gradually increasing burden under the present social, economic and educational systems of our country.

What is the remedy for this deplorable condition of our civilized social life. We dare not discredit these facts and endeavor to lull ourselves into feelings of security by questioning the significance or truthfulness of these statistics and statements. Indifference, unconcern, a lack of investigation and information for ourselves, an unwillingness on the part of the public mind to concede or acknowledge these stern truths will not lend a helping hand to correct them.

It seems that the time has not yet come for the public conscience to awaken to a full realization of the urgent need of concerted efforts on the part of the masses of the people to prevent such a gradually increasing mental decay and such widespread criminality as we find today.

While mental disease, mental defectiveness, criminality and social inadequacy from any cause are on the increase, resulting in much social damage and a great financial burden "it is not of itself sufficient to sink us economically or to destroy us socially." However, if we permit such conditions to continue and gradually multiply their deleterious effects upon the citizens year after year and generation after generation, what can we reasonably expect the human harvest to be in distant generations? Under such conditions are we fulfilling our duty to posterity to bequeath to them such a heritage? A drowsy citizenship in matters of such vital concern to the welfare of a nation will not remedy them. What guarantee have we from the history of nations that great nations of the world of today may not crumble and fall in future generations as the result of a gradually increasing multiplication of such conditions?

"Rome, at one time the most powerful nation of the world, fell, not from decay of old age, not from lack of diffusion or over-diffusion of intellectual culture, not from neglect of military tactics, for there were men enough in the camps, men enough in the streets of Rome, men enough in menial labor, or no labor at all, but of mentally strong men there were too few. Manhood had failed."

Dr. Ray Lyman Wilbur says further, "Disaster awaits any people with too high a percentage of the insane, mentally defective, or the emotionally unstable. . . . Our safety lies in the sanity of our people. . . . Mental health of a nation is its greatest asset."

A nation which increases in population and wealth while the general character of its citizenship is slowly but gradually declining is not a progressive and prosperous nation. Not only what can be done to prevent the tendency to mental and moral degeneration and criminality of the people of a land but what can be done to develop a nobler and higher type of humanity with increased mental vigor and higher standards of morality is the problem we should attempt to solve.

The picture I have presented to you is the dark side of the life of nations of the world of today. Where must we turn for a solution of these great problems? Where can we see a bright outlook for the future? It is held by many that these problems can only be solved by the dissemination of proper knowledge to the masses of the people of the chief causes and real sources, the fountain heads, of such unfortunate and unhappy conditions of the social life of nations of the world today.

We should all realize and fully understand that the untrained, unguided, undisciplined

emotions of individuals, especially in early childhood—the emotional upsets, emotional irritability, lack of wholesome convincing information to youthful minds, lack of constant education of the true standards of life, with a woeful neglect of correction of the serious emotional defects, the twisted, warped and serious malformations of the emotions of the growing child—are responsible for a great percentage of mental diseases, mental disturbances, criminality and bad conduct disorders found everywhere.

We are told by leading investigators of conduct disorders of normal and abnormal children that the lack of training, guidance, discipline, sublimation and subjugation of the natural impulses, desires, cravings and passions of the emotional life of the rising generation is responsible for a large percentage of bad misfits in social communities.

We should all know that the two great powers of a human mind are the intellectual powers and the emotional powers. There is a great deal of misunderstanding in the minds of many of us as to the marked distinction between intelligence and emotion. We should all realize that intelligence is widely different from emotion. Emotion resided in man long before his intelligence came into being.

The ability to figure out the product of seventeen times twenty-five, or to extract the cube root of a certain number, or to repeat from memory the names of the past presidents of the United States or to name the five largest cities in the world, are examples of intellectual activity. On the other hand, joy, grief, sorrow, fright, fear, terror, worry, despondency, anger, revenge, disobedience, disloyalty, temper tantrums, jealousy, laziness, are emotional activities or evidence of the emotional tone of the mind.

Our emotions play a deeply complex part in our everyday lives, a far more important part than we have been taught to realize. They are the driving forces of our being, the background of our personality, of ourselves. Our words and actions are simply the outward expressions of our internal emotions, of our inner selves. It is not our intelligence but our emotions which form our character. In our everyday association with one another it is not our intellectual qualities but our emotional qualities which win for us lasting friendships. It is not our intellectual ability but our emotional tone of mind which makes us a likeable or unlikeable personality. Our individual standard in life is not measured by our intellectual characteristics but by our emotional characteristics. Many individuals with brilliant and highly developed intellects have been dismal

failures in life because of their bad emotional tendencies.

We must ever keep in mind, however, the important fact that intellectual attainments, training and development are very essential parts of the training of the rising generation, for without intellectual attainments an individual is badly handicapped in the struggle of life. Intellectual ability, while an equipment of great strength and power for the accomplishment of great good in life, is not of itself a guarantee of a successful career, for it is being constantly demonstrated that it is the emotional tone of our being which leads us to success or failure. Our emotional characteristics, our personality traits, are the determining factors which carry us either to triumph or defeat.

The importance of the work to be done for our rising generation in assisting in the solution of the complex problems of their environment, which frequently thwart all their efforts for a healthy development of their emotions, with proper guidance, correct training and wholesome development of the great driving forces of their being—the emotions of the child—as a part of their teaching, training and development, hand in hand with their intellectual training, has not yet been fully realized by the people of our land. A true and complete education is that which best fits our rising generation for the great practical duties of life. An intellectual development only without a proper guidance and development of the emotional part, the controlling powers of a child's being which are the dominant driving forces of his mentality, seems to be proving in the practical life of a large percentage of our citizens, an improperly balanced education and training. The necessity of constant supervision, proper instruction, and wholesome guidance of the constant interplays and conflicts of the intelligence and emotions of youth for a healthy development of the growing mind, have not been sufficiently emphasized by the educators of our land.

In regard to a full and complete training and education of our rising generation we are in very much the same position today as we were years ago in regard to physical education. For a number of years we have all been familiar with the word hygiene. Parents have learned much about the physical needs of children, the six point child, the nine point child, the care of the teeth, the removal of tonsils and adenoids, correction of visual defects, the question of proper feeding, the play and rest periods, to keep the children away from contagious diseases, etc. By sanitation and the practice of the principles of physical hygiene and modern methods for the prevention of diphtheria, ty-

phoid fever, hookworm, smallpox, tuberculosis and other infections, these diseases are being rapidly brought under control and the work of the prevention is destined to accomplish even greater things in the future. The success of this great work for the physical welfare of humanity is due most largely to the dissemination of information and education of the masses of the people and our rising generation in the practical application of the principles of physical hygiene.

But let us ask ourselves this question: What special work or what special progress are we making in our public educational system for the protection, preservation and conservation of normal minds and the development of a healthy, wholesome emotional life of the rising generation?

Is not the conservation of the mental health and strength of the citizens of as great importance as the conservation of their physical health? For a state to attain the highest possible development should it not seek to maintain and increase the mental vigor as well as the physical vigor of its people?

Why should not the educational systems of a state be as greatly concerned in the matter of protection of the mental integrity of its citizens as their physical integrity? Should not the educational system of a state seek the development of the individual as a whole, in all of its parts, in all of its everyday activities, physical, intellectual and emotional?

In any age and at any time public instruction of the rising generation if it properly fulfills its true function must fit its patrons for the practical social duties of life. Should not wholesome, scientific child guidance and proper development of the plastic emotional life of our present and coming generations form an important part of their everyday education?

The public mind today seems to be in very much the same attitude in regard to the teachings of mental hygiene as it was years ago in regard to the teachings of physical hygiene. The public believed at one time that nothing could be done to prevent the ravages of tuberculosis. It felt no sense of obligation for the prevention of this disease and little for its cure, for it was firmly believed that it was neither a preventable nor a curable disease; but the moment the people realized that something could be done to prevent it, that moment they began to feel that a duty and obligation of the highest sort rested upon them, and for a number of years our people have been doing a great work in efforts to stamp out this physical scourge of humanity, and they have already reduced the mortality over 50 per cent.

Psychologists, psychiatrists, mental hygienists, and social workers tell us that when the masses of the people are awakened to a sense of their duty and obligation in regard to the practice of the principles of mental hygiene as they have been taught in regard to the practice of the principles of physical hygiene, the percentage of mental diseases, criminality and various abnormal emotional disturbances of individuals can be reduced over 50 per cent.

"It is far better to save from sin than to save the sinner." It is far more economical for a state to prevent disease than to incur the expense of all commendable necessary efforts to treat and attempt to cure it. The greatest financial economy in the end in efforts to solve these increasing financial burdens means the expenditure of money now for the prevention of these ills before the financial demands upon the taxpayers become greater than they are able to bear for the care of those incapacitated from mental disease.

Why should not the necessity of preventing the spread and gradual increase of the mental and emotional ills of the citizens of a state be equally as well realized as the importance and necessity of preventing their physical ills? These are questions which should be of deep concern to every taxpayer.

Leading research workers and investigators have realized for years the urgent need of curtailing the great loss of human efficiency from mental ailments, criminality and conduct disorders, both from a humanitarian viewpoint as well as from the viewpoint of the enormous financial burden and economic loss to civilized countries throughout the world.

With this object in view the first international congress on mental hygiene in the history of the world held its meeting in Washington, D. C., in May, 1930, less than a year ago, in which fifty-seven of the leading nations of the world were represented, for the purpose of discussing these world-wide problems and to devise means and practical methods of teaching the peoples of civilized nations the fundamental principles of mental hygiene. The report of this congress is now in the press and will be ready for distribution during the late spring or early summer months of this year.

Citizens of communities throughout our country can obtain information as to the plans proposed for this work by writing the National Committee for Mental Hygiene, 450 Seventh Street, New York City, requesting a copy of the instructions on "The Child Guidance Clinic and the Community," and of "Points on Child Behavior," and further by writing the Children's Bureau, Department of Labor, Wash-

ington, D. C., requesting a copy of the pamphlet on "Child Management." Also by writing to the Human Betterment Foundation, 321 Pacific Southwest Building, Pasadena, California, which is strictly a scientific, research, and educational organization and has made a careful study of more than 6000 cases. They will be pleased to furnish reports of their investigation and also literature without charge.

For the betterment of the human race the education of the public in the practice of the principles of mental hygiene is of the utmost importance. It is hoped that by this and other important means sentiment can be created in favor of other outstanding, efficient and practical humane measures for the betterment of our race, the necessity of which when fully realized by our people will go far toward changing the trend toward human degeneration. One of these important measures is the sterilization of selected cases of the socially unfit, wherever conditions indicate that such unfit person is likely to reproduce children with similar tendencies, and thus prevent to a large extent their continuous and rapid multiplication.

Rational evolution is a process of social, economic and moral progress which can only be assured by the discovery, study and correction of the avoidable causes which deter its advancement.

While the philosophy of the education of our rising generation has been changing for the better during the last fifty years, as the requirements of our social conditions demanded, yet it is believed by many that our educational systems of today are still somewhat too traditional and that there is a need of still greater modernization as our present social conditions would seem to strongly indicate.

The responsibility of communities in efforts to improve the mental, emotional and moral health of the rising generation of our country is being emphasized more and more every year. The leaders in this work are gradually finding ways of attacking these problems. This is one of the important social problems confronting the American people today. It is hoped that communities throughout our land may be awakened to their responsibility and duty of assisting in the education of the people and the rising generation in the practice of the principles of mental hygiene.

When the importance of this work is fully realized by the public in general we trust a large percentage of the unfortunate social conditions mentioned will no longer be regarded as hopeless, unavoidable, uncontrollable and irreparable.

THE MANIC-DEPRESSIVES

A FURTHER PLEA FOR THEIR CLINICAL
RECOGNITION

FRANK R. FRY, M.D.

ST. LOUIS

Several years ago Dr. Charles Phillips Emerson, of Indianapolis, delivered an address before a joint meeting of the mental hygiene societies of St. Louis and Missouri. In the course of his remarks he reminded his audience—a large one for an occasion of this kind—that there must be a number of tuberculous persons present. In fact, if we knew numerically the size of the audience we could estimate the number of the tuberculous, at least on a percentage basis. Then in the same vein he went on to say that there must also be in the same audience a number of manic-depressives.

The first proposition was, of course, quite intelligible to the cultured audience before him. On the second proposition, the manic-depressive malady, most of his hearers were certainly mystified. However, this contrasting of the two syndromes was very interesting in view of the object the speaker had in mind. In the case of tuberculosis there had obtained for many years a gradual educational process, conducted mostly in a sensible way, until not only the medical profession but sanitarians and hygienists and finally the people at large had gained insight to the nature of the disease and the problems of managing it. And what is true about tuberculosis is more or less so concerning a number of familiar maladies.

Dr. Emerson, wisely, did not attempt to enlighten his hearers on the manic-depressive syndrome beyond assuring them that it was a definite psychosis of frequent occurrence and fully recognized by those who perforce of circumstance became familiar with it. In a tactful manner he made it the occasion of citing the purpose of the mental hygiene movement, namely, to open up approaches to man's better and broader psychological understanding of himself, and also to remind us that progress along this comparatively new line of human endeavor must proceed with intelligent patience and due caution.

I have cited the above incident hoping to draw the attention of clinicians more intimately to my theme. For the same reason I have used the plural form in my title to suggest a concrete clinical approach rather than a mere abstract discussion of the manic-depressive psychosis.

This term has been in use for many years, yet the technical psychiatric application of it is

rightly understood by comparatively few. The manic-depressives are individuals who have a constitutional tendency to certain mental and somatic reactions which may vary within a wide range and yet all carry the stamp of their essential unity.

Some of the patients produce conditions of marked maniacal excitement or of deep depression, often alternating these two states at variable periods in more or less classical fashion: hence, the term manic-depressive, also the synonyms, circular insanity, cyclical insanity, etc. However, these severe cycles are only the occasional overflow, as it were, in the predisposed and wherein exciting causes have not more than a conjectural importance. On the other hand, many other individuals carry the taint through their lives with only minor evidence of its existence. Yet even these minor traits carry the stamp of the disease if only we have the opportunity to observe and recognize them.

There is a reluctance to apply to these minor cases the severe sounding manic-depressive appellation. Substitutes have been proposed, such as periodic asthenia, autonomous depression, affective psychosis, etc., even by those who recognize the proper psychiatric classification. But from long usage the term manic-depressive has come to carry such a definite meaning and application that a substitute or substitutes for it may only lead to confusion, at least at the present stage of our psychological investigations. Meanwhile, the majority of these cases are passed along with the convenient and popular label of neurasthenia, while in other cases the presence of a psychotic situation may be entirely overlooked.

In this psychosis somatic symptoms often so overshadow the psychic ones for the time that the latter do not excite proportionate interest. But often it is owing to their interest in these perplexing somatic reactions that the more thoroughgoing type of internists are steadily becoming better oriented in the possibilities of the disease and earlier recognizing its victims. To accomplish this is of extreme importance because the cases are numerous, and they may be handled properly only when understood.

This after all is not a difficult accomplishment in the light of modern internal medicine. It consists of getting the main idea and then following the trail with increasing incentive. One soon finds that the conscientious study of this psychosis is the best opening one can find to the comprehension of modern practical psychiatric classification and nosology, and also that here the internist and psychiatrist may combine their efforts to better effect than in

any other type of psychosis. Attempted psychiatry without adequate control on the physical side is a failure. On the other hand, the psychiatrist gets suitable help only from the internist who has an intelligent sympathy with his work. Of course this applies to the whole field of psychiatry and I have only drawn attention to the manic-depressive cases as the easiest clinical approach, as I have already stated.

I am personally aware that much has been gained in the direction of this particular kind of team work, especially in the last few years in this country. For example, I note with pleasure that interns in our hospitals have an increasing interest in psychotic cases. This speaks well for the kind of instruction they are getting in contrast to older methods.

From all quarters we hear the constant admonition that we must learn to study the personality of each individual patient if we may hope to attain the best standards of modern practitioners of medicine. If this means anything it means that we must gain a practical understanding of psychotic conditions. This utterance is already trite, as well as others in this brief paper, yet I believe it is not inopportune to add a further encouraging suggestion.

401 Beaumont Medical Bldg.

REDUCTION OF EDEMAS BY NOVASUROL*

WALTER M. WHITAKER, M.D.

QUINCY, ILL.

Since January, 1931, it has been my opportunity to use novasurol in the treatment of edemas of varying etiology. In virtually every case, such marked and prompt results were obtained to the gratification of both patient and physician, that such cases seem worthy of notation. No type of patient seems more in need of urgent medication than does the one suffering from congestive heart failure with profound edema. He often presents a picture of almost total helplessness with generalized anasarca and accompanying dyspnea and orthopnea of such severity that rest even with opiates is sometimes unobtainable. It is in such cases that something urgent must be done. In my experience, most of them have been on some sort of cardiac tonics for several months or diuresis has been produced by severe purging. Oftimes patients were on digitalis but, as is so frequently seen, the drug had not been pushed to tolerance and consequently its full clinical value was not obtained. In one or two

* Van Ravenswaay Clinic and St. Joseph's Hospital.

of the reported cases the clinical condition was very severe and death imminent. Prompt relief of symptoms after several injections of novasurol, as described subsequently, with no severe toxic effects even in ambulatory patients leads one to assume that the profession has a potent and useful agent for the reduction of edema.

Novasurol, or merbaphen, is a German drug which was introduced to the medical profession as an efficient diuretic in 1920 by Saxl and Heilig.¹ Investigators often observed that edemas which had been resistant to the current forms of diuretics and management then in vogue were rather promptly and efficiently reduced by the drug.

Novasurol is the double salt of sodium oxymercurio-chlorophenoxylacetate with veronal. It contains about 34 per cent of mercury in a nonionizable combination. The drug is prepared in a 10 per cent neutral sterile solution and may be given intravenously or intramuscularly. Care must be taken never to give it subcutaneously as a severe slough will probably result in such case. In no case reported has the author resorted to the intravenous route. The results have been so good by the intramuscular administration that no necessity arose for the intravenous method. Oerting² feels there is nothing to be gained by the intravenous method.

The usual dose consists of 0.5 to 1 c.c. with an interval between injections of three or four days, depending upon the severity of the edema to be reduced, the speed of reduction, and any unfavorable reactions. Such untoward reactions may consist of a severe diarrhea, headache, nausea, vomiting, stomatitis and, rarely, febrile reactions. One patient in particular had a slight chill two or three hours after each injection. On the whole, reactions even of slight subjective discomfort were practically absent in the present cases, except for an enteritis of short duration in two cases which was easily controlled by bismuth subnitrate. Nearly all patients complain of a severe aching in the arm for about five or ten minutes after injection into the deltoid. It is perhaps advisable to start with 0.5 c.c. doses to note any unusual reaction. Injections should be given in the morning, since the diuresis is often most marked during the first twelve hours. No definite conclusions have been reached concerning the mode of action of novasurol but, containing the amount of mercury which it does, one would expect it to act directly on the kidney itself, probably on the tubular elements.

Keith, Barrier and Whelan,³ of the Mayo Clinic, were able to show that novasurol produces a diuresis in edema cases combined with

increased excretion of sodium and chlorine in the urine, but were undecided as to whether this resulted from direct kidney action or from action on extrarenal and renal tissues combined. These investigators also advocate the use of ammonium chloride as a diuretic agent, and think better results could be secured by a combination of novasurol and ammonium chloride than could be elicited by the use of either alone. Numerous other workers have expressed such an opinion, among them Blake,⁴ Broadbent⁵ and Anderson.⁶ Ammonium chloride was given in several of the cases here reported as an auxiliary therapy on the basis of the above reports, but in the majority of the cases I was unable to note much difference in the response to novasurol. However, if an acid state of the tissues is necessary for the maximum effect of novasurol, then ammonium chloride would be advisable. The ammonium chloride is given in capsules of 5 to 10 grains each, and the average dose recommended is 5 to 10 grams in 24 hours. In none of my cases was I able to force such dosages, most of the patients being able to take only 30 to 50 grains daily without severe nausea and burning in the epigastrium, even when the drug was given after meals. Keith, Barrier and Whelan³ gave eleven patients 5 to 16 grams daily for from 3 to 18 days; 162 grams was the largest amount ingested. Only one case developed clinical acidosis; this was a case with severe renal insufficiency.

As noted from observance of the reported cases, it will be seen that novasurol with or without coincident ammonium chloride therapy may be used in (1) edema associated with cardiac disease; (2) cirrhosis of the liver. Blake⁴ treated nine cases with complete disappearance of ascites in six and no improvement in three, and Anderson⁷ had good results in a case of portal cirrhosis—as did also Rowntree, Keith and Barrier⁸ at the Mayo Clinic; (3) obstructive edema due to obstructed lymphatics or glands; (4) nephritis with edema; (5) in the nonsurgical removal of fluid from any of the serous cavities, as occurs in polyserositis. No case of such is reported by the author. Probably the most striking results occur in those cases in which the edema is an evidence of congestive heart failure. It is these subjects which are usually the most markedly edematous.

In the reported cases no evidence was noted of toxicity other than the previously mentioned slight reactions. Early data on novasurol advised against its usage in nephritis, but in the reported cases in which 3 or 4 plus albumin and some casts existed the novasurol did not aggravate the condition, and in none were red blood cells found in the urine after its use. Of

course, much depends on the functional activity of the kidneys. Where there is evidence of much retention of nonprotein nitrogen in the blood or a low phenolsulphonaphthalein excretion, it would probably not be advisable to use the drug; but certainly many chronic cardiorenal cases with edema can be markedly improved and relieved of many symptoms by the judicious use of novasurol, with or without ammonium chloride. Cases of impending uremia, of course, cannot be expected to be greatly benefited since the functional capacity is too low. But those cases of cardiorenal trouble with edema in which there is a fairly good phthalein output and not much nonprotein nitrogen retention can be expected to improve well under this therapy. In several cases the casts and albumin diminished markedly or disappeared altogether, particularly in those cases primarily of kidney congestion.

Certainly the acute forms of nephritis and any acute enteritis serve as the two main contradictions to novasurol therapy. The failure to obtain results and the liability of inducing further damage in an impending uremia with high nonprotein nitrogen make the drug's usage inadvisable there.

Keith, Barrier and Whelan³ reported twelve cases of nephritis with edema falling into glomerular and nephrosis types relieved by novasurol and ammonium chloride after having been resistant to other forms of therapy. Phenolsulphonaphthalein test ranged from 35 to 75 per cent and in none was there serious cardiac impairment. Albuminuria and cylindruria were present. One case with a phenolsulphonaphthalein test of 5 per cent in 2 hours and creatinine of 9 mgm. developed acidosis from the ammonium chloride. In conjunction with this therapy, limited fluids of 1000 to 1200 c.c. daily, low salt and low protein diet, and digitalization were carried out in their cases and in most of the cases here reported where the edema was a result of cardiorenal disease.

REPORT OF CASES

Case 1. H. F., male, aged 65, ill for several months with dyspnea, slight orthopnea and a progressive generalized edema of extreme degree involving the sacrum, abdominal wall and face. Abdomen distended as if ascites were present. Scrotum and penis markedly edematous. Blood pressure 190/120. Heart regular in rate, force and rhythm. Moderate peripheral sclerosis. Heart slightly enlarged to left. Urine: 4 plus albumin, no sugar, guaic negative, few pus cells and occasional hyaline casts. Phenolsulphonaphthalein test 35 per cent in 2 hours. Diagnosis: Decompensated hypertensive heart disease with generalized arteriosclerosis and chronic nephritis. This patient was acutely ill when seen. His edema was intense and cyanosis was moderate, with extreme engorgement of veins in neck. Treatment consisted of "tapping" the scrotum and abdomen as

emergency measures. Only about 200 c.c. of fluid was obtained from the abdominal cavity, the bulk of the fluid being in the abdominal wall, and 800 c.c. from the scrotum.

The following therapeutic measures were instituted: (1) Patient was put on low protein, salt-free diet. (2) Fluids were limited to 1000 c.c. daily (24 hours). (3) Ammonium chloride, 70 to 100 grains daily, after meals, for 3 days, as the maximum tolerated, was given. There was little or no increase in urine output during such dosage. (4) Novasurol, 1 c.c. intramuscularly, was given on third day. Diuresis was prompt and output for first 24 hours was 2000 c.c. greater than intake. Patient continued on ammonium chloride and had dosage of 1 c.c. of novasurol every other day for 3 doses with no ill effects and with a diuresis of 3000 to 3200 c.c. daily over intake. Patient was kept on ammonium chloride, 30 to 50 grains daily, throughout clinical course.

The patient was given eighteen doses of novasurol over a period of nine months with diuresis varying from 2000 c.c. to 7500 c.c. in 24 hours. On one occasion 500 c.c. of urine were passed thirty minutes after complete drainage of the bladder. Repeated urine examinations showed a diminution of albumin from four plus to one plus, coincident with a reduction of the generalized edema. At no time did any red blood cells appear in the urine. Patient had been bedfast for several months before treatment. He is now up and around all the time and remains fairly free of edema. Electrocardiogram showed left axial deviation, no slurring of QRS, regular rhythm, T waves iso-electric in lead 1 and upright in leads 2 and 3.

Case 2. E. P., female, aged 62, ill for several years with heart trouble and breaks in compensation. When first seen she was acutely ill; auricular fibrillation present, edema 4 plus; liver down 3 or 4 fingers and tender; veins in neck engorged; marked dyspnea and orthopnea. Blood pressure 170/100. Never digitalized but had been on 15 drops daily for some time. Heart markedly enlarged to left and right. Some bronchospasm. No effusion. Diagnosis: Hypertensive heart disease with acute decompensation. Therapy: digitalis, 20 c.c. in 3 days (weight 110 pounds). July 21, 1930, patient given 1 c.c. novasurol with no ammonium chloride; passed 5000 c.c. in 24 hours; markedly relieved. July 23, 1930, put on ammonium chloride, grams 30 daily, and tincture of digitalis, drops 30 daily. No edema. Blood pressure 140/75. Still slow fibrillation. Liver to costal margin. Urine: no blood, trace albumin, no casts. August 27, 1930, up and around for past month. Blood pressure 140/100. Slow fibrillation. Treatment as above. September 4, 1930, novasurol, 1 c.c. given; diuresis 5000 c.c. Now some headache and blurring of vision. Reduced digitalis to 15 drops daily. Urine, 1 plus albumin, no casts and no blood. September 9, 1930, acutely decompensated again. Liver down 4 fingers. Pulse 130. Auricular fibrillation present. Marked dyspnea, orthopnea and cyanosis. September 20, 1930, patient expired.

Case 3. W. S., male, aged 63, dyspnea for 24 to 30 months, tired easily, unable to sleep, edema of ankles for past six months. August 11, 1930, when first seen, patient had been on digitalis at irregular intervals for 2 years, but had had none for a week prior to coming to the clinic. Nocturia 2 or 3 times. Heart out to left and down 1½ inches beyond nipple line. Liver not felt. No ascites. Reflexes normal. Entire lower extremities edematous. Pulse, slow fibrillation. Blood pressure 200/100. Electrocardiogram showed slow fibrillation, T waves down in leads 1 and 2, notched QRS, left-sided deviation.

Urine: 1 plus albumin, no casts. Diagnosis: Hypertensive heart disease with decompensation and auricular fibrillation. August 11, 1930, novasurol 1 c.c. and ammonium chloride grains 30 given, with slow digitalization carried out (45 drops daily). Patient had slight chill 5 or 6 hours after intramuscular injections on two occasions. Five doses of novasurol with 30 grains of ammonium chloride daily were given over a period of two weeks during which time his weight dropped from 248 to 222 pounds, practically all of the loss coming over a 5 to 6 day period. Patient remained fairly well for two months (until October 27, 1930) continuing on 30 drops tincture of digitalis daily, rest, and 30 grains ammonium chloride daily. Gradual return of edema. Urine: albumin 2 plus, no blood, and rare hyaline casts when again seen. Following three injections at two-day intervals edema had gone and urine showed only trace of albumin with no blood or casts. Patient remained fairly well until January 1, 1931, when his edema returned. Total digitalization had been maintained. Urine shows 4 plus albumin with numerous hyaline and granular casts. Weight 240 pounds. Given novasurol, 5 injections in 10 days, with weight loss to 228 pounds. Urine on dismissal showed albumin 2 plus, no casts and no red blood cells.

Case 4. C. B., woman, aged 49, ill for many years with heart trouble. Old rheumatic history. Severely decompensated with liver down 4 fingers. Blood pressure 120/80. Ascites, rales at bases, auricular fibrillation, edema of legs. Urine: full of albumin and granular casts, no blood. Digitalized and given novasurol for 3 doses with moderate diuresis (3000 c.c. and 2000 c.c.), with edema subsiding. Improved for two weeks only to become acutely decompensated and die.

Case 5. G. C., woman, aged 66, referred to the clinic by family physician. Had had rheumatism at 35 years of age. Decompensatory symptoms for 6 months. Abdomen tapped twice at another hospital. No headaches or vomiting. Had been receiving 105 drops of tincture of digitalis daily for past 3 or 4 weeks. This was a potent tincture, as near as we could ascertain. Weight 180 pounds. Roughly, patient had had 50 to 60 c.c. digitalis in excess on admission. Physical examination showed marked generalized anasarca. No puffiness about eyes. Marked dyspnea and orthopnea. Heart rate 90. Occasional extrasystole. Blood pressure 155/90. Marked left-sided enlargement. Electrocardiogram showed marked myocarditis but no blockage or arrhythmia. Urine: 4 plus albumin, few casts on admission. Phenolsulphonaphthalein test 25 per cent in 2 hours. Nonprotein nitrogen 30 mgms. Wassermann negative. No digitalis was administered in view of above history and findings. Novasurol, 5 doses intramuscularly with ammonium chloride, grams 30 daily. Diuresis not marked but reached 3000 c.c. in 24 hours on 2 occasions after taking the drug. Patient grew worse and died of myocardial failure.

Case 6. J. W., male, aged 72, was a patient at the hospital in June, 1930, at which time he was acutely decompensated on the basis of a hypertensive heart disease with symptoms for 3 years. Urine showed albumin 2 plus, and no casts at the time, but phenolsulphonaphthalein test was only 25 per cent in 2 hours. Nonprotein nitrogen 63 mgms. per 100 c.c. and creatinine 2.5 mgms. per 100 c.c. Patient was thoroughly digitalized and, since there was only slight edema of the feet, no novasurol was used. Patient improved and went home. Returned in December, 1930, when he complained of having head-

aches, vomiting, enlarged abdomen and some edema of extremities. Phenolsulphonaphthalein test was only 10 per cent in 2 hours. Urine showed 4 plus albumin and many casts. Realizing the bad prognosis and the uremic nature of the case, I decided to try small doses of novasurol in an attempt to reduce the abdominal ascites, the patient refusing to be tapped. Novasurol in $\frac{1}{2}$ c.c. doses given on 3 occasions with no apparent effect, the urinary output only reaching 700 to 800 c.c. in 24 hours, or no balance over intake. This case serves to illustrate how functional incapacity of the kidneys alters the diuretic effect of the drug. No apparent harm was done. No blood appeared nor any increase in casts. Patient went home and died 3 months later.

Case 7. O. C., woman, aged 68. Ill for 2 years, jaundice, ascites, weakness. Liver was enlarged 3 to 4 fingers below costal margin. Spleen also palpable. Marked tense abdominal ascites. Blood showed no dyscrasias of pernicious anemia or leukemic type, only a secondary anemia. Patient was a physician's wife and laparotomy was refused. Probable diagnosis, cirrhosis of liver. Novasurol $\frac{1}{2}$ c.c. intramuscularly with ammonium chloride, grams 15 daily, produced a marked diminution in the ascites, which was thereby controlled to time of patient's death. Patient had slight diarrhea after drug.

Case 8. E. T., woman, aged 48. Patient had had supravaginal hysterectomy in May, 1930, for carcinoma of body of uterus. After the operation she developed a marked lymphedema of both lower limbs causing total inability to move about. Novasurol 1 c.c. intramuscularly with ammonium chloride, grains 30 daily, for 3 doses at 2 to 3 day intervals produced a marked diminution in the edema. Patient was much relieved but did develop a gingivitis which cleared up promptly on cessation of the injections. Novasurol served to make her more comfortable and relieved an otherwise very troublesome complication. Patient died three months later.

Case 9. Man, aged 71. Had noted swelling of right leg from ankle to knee for 7 or 8 years. No preceding operations or infections. Slight dyspnea on exertion for 2 years. Some intermittent claudication. Examination showed marked edema of right leg with pronounced varicosities of the veins. Heart normal, urine negative. No masses felt in abdomen. No ulcerations about ankle but some discoloration. Edema was so intense that novasurol was given in an attempt to reduce the swelling prior to injection of veins. Three doses of 1 c.c. each on alternate days with coincident ammonium chloride, 50 grains daily, were given. Edema receded markedly after such medication and veins were injected with 75 per cent glucose. In this case the lessening of the edema made the injection of the veins much easier, aside from the symptomatic relief afforded the patient. The leg remained much improved.

CONCLUSIONS

1. Novasurol, with or without ammonium chloride, is a very effective agent in reducing edemas, particularly those due to congestive heart failure.
2. No severe toxic manifestations were evident in the reported cases.
3. The administration of novasurol by intramuscular injections is a very rapid method for reducing edemas in ambulatory as well as in bedridden patients.
4. Diuresis as high as 7500 c.c. in 24 hours

has occurred in a patient who received 18 doses of novasurol over a period of 9 months, with no ill effects.

5. Acute enteritis and acute nephritis and severe nephritides, with retention of nonprotein nitrogen, seem to be the only contraindications to usage. Albuminuria and cylindruria in the presence of good renal function do not contraindicate the use of novasurol.

6. Novasurol is a useful agent in combating postoperative lymphedemas.

7. The convalescence of cardiorenal patients is considerably shortened.

700 W. C. U. Building.

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SPECIAL ARTICLE

SOCIAL INSURANCE

EDWARD H. OCHSNER, M.D.

CHICAGO

[This is the beginning of a series of articles on "Social Insurance" written by Dr. Edward H. Ochsner, Chicago. Four more articles will follow.—Ed.]

All forms of social insurance are contrary to the spirit of democratic government. They destroy individual incentive, initiative and self-reliance. They substitute paternalistic control for independence of thought and action. We pride and congratulate ourselves on living under a democratic form of government but most of us fail to realize that we are slowly but surely drifting away from the true democratic spirit in government—that we are gradually substituting a hybrid form of government, a cross between bureaucracy and socialism. Personally, I am a firm believer in democracy and believe that many of our present ills are the direct result of already having deviated too far from the fundamental principles of democracy.

Individual responsibility is the foundation of democratic government. If a nation does not educate its citizens to individual responsibility it will soon have no one capable of assuming public responsibility. Slowly through the ages, the common man has risen from chattel slavery and serfdom to independence, freedom and personal liberty, and now some well-meaning but misguided people want to undo all this. They want to enslave man again making him in

fact a bondsman of the state. Organized society is forever forging new chains with which to shackle the free development of its members. It is forever meddling with the private affairs of its citizens. One of the best illustrations of this statement is found in a recent survey of the Citizens' Bureau of Milwaukee which found that the city is engaged in approximately 300 different functions one fifth of which have been added during the last sixteen years. Milwaukee is no worse in this respect than many other cities in this country. Add to this the activities of the county, state and Federal governments, and we find an explanation of the following: "In a period in which the population of the United States has increased 10 per cent the number of persons holding civil office has increased 40 per cent and the amount paid in salaries has increased 150 per cent." Thirty years ago one person in every forty-five was in government employ while now one in every twelve is so employed.

"It is a profound mystery why the people of the present generation should so violently run after the very things their forefathers so violently ran away from in 1776. One of the chief indictments of King George set forth in the Declaration of Independence reads: 'He has erected a multitude of new offices and sent hither swarms of officers to harass our people and eat out their substance.'"

In a recent article, Dr. Harry Emmerson Fosdick makes a statement that seems particularly suitable in this connection. He said, "Many of those in society who are dissatisfied with present conditions know what they want to get away from but they do not know whither they are going." I would add, "nor do they seem to have any clear idea as to what they want." Before we adopt new laws we should make reasonably sure that such laws will not introduce new and greater evils than they are expected to cure, that they can actually be enforced and that they are not likely to be abused in their administration.

A far-reaching innovation such as social insurance must be viewed from many angles. We must consider its effect upon the general public, the insured, the employer and the medical and dental professions.

If we are deliberately trying to get away from the democratic form of government, having a definite objective in view, and if we are reasonably certain that the goal for which we are headed is worth while and is going to result in general social and economic betterment, an experiment with social insurance might be justified; but even then, it is well to weigh and consider carefully what the wise founders of our government had to say on this important

subject. I quote from the Declaration of Independence: "Prudence, indeed, would dictate that government long established should not be changed for light and transient reasons." If we, a nation, are just aimlessly drifting, as we seem to be doing, we are almost sure to get into serious trouble.

We believe that we shall be able to show conclusively that in those countries in which it has had prolonged and extensive trial it actually has had serious consequences.

The Genesis of Social Insurance

Social insurance is the hybrid offspring of impracticable sentimentalism and political expediency. It is an epidemic disease first observed in Germany about fifty years ago which has gradually spread and infected a considerable number of the nations of the earth and now has arrived at our very doors. Unless we succeed in establishing a rigorous quarantine of enlightened public opinion, it will surely gain a foothold in this country in the not distant future.

Social insurance consists of the following subdivisions or parts: Compulsory health insurance, old age pensions, widows' and orphans' pensions and unemployment pensions or doles. In none of the countries were they all adopted at the same time. Germany adopted compulsory health insurance in 1883 and all the other forms since that time. Austria adopted compulsory health insurance in 1888; Hungary, in 1891. England adopted old age pensions first and compulsory health insurance in 1911 and the others subsequently. In this country some of the states have adopted old age pensions and some widows' and orphans' pensions but so far none have adopted compulsory health insurance.

When the scientific physician is confronted with the problems presented by a new patient he meets the situation in the following manner: he obtains a complete family and personal history in order to ascertain if possible the causes which have brought about the condition; by his physical examination and laboratory investigations he finds out what variations from the normal have taken place; after all this he is in a position to advise and institute the proper treatment. Let us follow the same course in the study of this problem.

During the late seventies a number of German parlor socialists conceived the idea that the state make itself responsible for the medical care of its workers. The sentiment in favor of compulsory health insurance grew rapidly among the workers and Bismarck, although expressing serious doubt as to the soundness of

such a measure yet feeling that something had to be done in order to appease the clamor of the proletariat and the alarming growth of socialism, adopted social insurance as a government measure, had a bill drafted and enacted into law.

In England, National Insurance as it is called there, had a slightly different setting but substantially the same background. In 1910, David Lloyd George in order to strengthen himself politically decided the time for such legislation was opportune. Not being able to speak German he gathered about himself several interpreters, hid himself to Germany and after interviewing the well-paid heads of the German system and after having been wined and dined and lionized for two weeks or so he returned to England very enthusiastic about the whole project, had a law drafted and later secured its passage. In the recent parliamentary election the Liberty party, of which Lloyd George has been the head for many years, elected just four members to Parliament, or less than 1 per cent of the whole number. So while Lloyd George may have saved his political skin by National Insurance in 1911, he certainly lost his hide by it in 1931.

Practically every reform movement attracts to itself a considerable number of well-meaning, emotionally impressionable, impractical, irresponsible, and very vociferous individuals, and very often a group who manage the propaganda and who hope to gain some pecuniary benefit from it. Social insurance is no exception to this general rule.

One of the common characteristics of reformers is that they want a new law passed for every human ill, and when the law is enacted they either sit back waiting for the millennium to arrive or they rush off looking for new evils to correct by new laws, forgetting to see to it that the law just passed is being properly enforced and forgetting at all times that all laws must depend for their enforcement not upon supermen but upon men often of less than average intelligence and integrity, upon politicians and their henchmen who are quick to see how these usually unsound and loosely drawn laws can be converted to their own advantage.

The above is what is actually happening in some of the countries where such laws are in operation as future instalments will show.

2155 Cleveland Avenue.

FRUIT SUPPLIES VITAMIN

The vitamin C that is destroyed by the boiling of pasteurized milk, as it should be prepared for infants, may be replaced by the addition of orange juice and tomato juice to the diet, says *Hygeia*.

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FEBRUARY, 1932

EDITORIALS

PROTECTING THE PUBLIC HEALTH

Discovering avenues of usefulness in the prevention and control of disease is one of the principal objects of organized medicine. Among other purposes mentioned in the constitution of the state and county medical societies is the obligation, "The protection of public health." Thus we find the organized medical profession advocating and pressing to adoption laws to prevent persons not qualified to treat the sick from obtaining licenses to practice medicine; to punish those already licensed who abuse their privilege and deceive the public concerning their qualifications; to establish boards of health for the control of contagious diseases and in every respect to promote methods of protecting the health of the people. How influential the county medical society can be in fulfilling this purpose was demonstrated by the St. Louis Medical Society when that body initiated a campaign to establish a system of inspecting meats and meat products produced by packing houses in the City of St. Louis.

For many years the United States Government has inspected packing houses whose products are shipped in interstate commerce. There are, however, in St. Louis as well as in every large city packing houses whose products are sold only within the limits of the state where they are located and such packing houses are not under the control of the United States Government and cannot enjoy the benefits of Federal inspection and if inspected at all must be inspected by the municipality. It was long known to the members of the St. Louis Medical Society that the City of St. Louis had no effective ordinance for inspecting local packing houses.

The Society's committee on health and public instruction viewed the situation and decided to recommend a campaign to establish municipal meat inspection. The committee was composed of Drs. Charles E. Hyndman, Jerome E. Cook

and Robert Vinyard and instructed the executive secretary, Mr. Elmer H. Bartelsmeyer, to make an investigation and report the result to the committee. Mr. Bartelsmeyer carried out these instructions and made a detailed report. He found fourteen plants in St. Louis whose products entered into interstate commerce and therefore enjoyed Federal inspection but he also found forty-eight plants whose products were sold wholly within the State and therefore had no supervision either by the Government or by the City of St. Louis. Approximately 50 per cent of the meat and meat products consumed in St. Louis were not inspected or were very inadequately inspected.

Indicative of the danger to the public health Mr. Bartelsmeyer submitted the following figures: During the fiscal year ending with June, 1930, there were 1,750,855 cattle, calves, sheep, goats and swine slaughtered in St. Louis plants under Government inspection; of these 3,862 carcasses and 25,794 parts of carcasses were condemned because of a diseased condition and 79,210 pounds of meat and meat products were condemned for improper handling. In comparison, the report pointed out that 521,604 animals were killed for state consumption in plants without Government inspection and with no record of carcasses or parts of carcasses condemned on account of disease or improper handling.

Growing out of the work begun by the committee the packing establishments having Government inspection sponsored a meeting at which a civic committee of ten, the St. Louis Committee on Inspection of Meat, was appointed by the group at large. On this civic committee was Dr. T. B. Pote, St. Louis, United States Bureau of Animal Industry, and the executive secretary of the St. Louis Medical Society.

Previous to the forming of the civic committee various organizations had been influenced to use only inspected meats, the first being the St. Louis Board of Education. Following the appointment of the civic committee investigations begun by the committee of the medical society were continued, additional organizations were aligned, an advertising campaign was inaugurated and a proposed ordinance was placed before the Board of Aldermen. This ordinance failed of passage because it did not conform with the most recent Government inspection rulings, did not provide any legal power for changing the rulings should scientific knowledge indicate a change, did not provide for the amount of money estimated as necessary for establishing and conducting the work and was vigorously opposed by the uninspected plants.

The committee continued its work and in a

report made June 3, 1931, listed among its activities the distribution of Government bulletins, talks before civic organizations, conducted group visits to Government inspected plants of about 4,000 women and 1,500 school children, an essay contest among school children and the alliance of one hundred organizations.

With the constant work of the committee in educating the public to the need of adequate meat inspection and the accompanying demand for inspected meat the uninspected plants began to align themselves with the movement. When the campaign began the committee was informed that ten stores in Greater St. Louis were handling only Government inspected meats but at the time the ordinance was passed it was estimated that 300 stores restricted the meat they handled to inspected products. The percentage of inspected meat sold in St. Louis increased from 50 to 70 per cent. The ordinance establishing municipal meat inspection was passed June 23, 1931, and began operating October 12.

Previous to the passage of the ordinance nine city sanitary inspectors employed by the health department made it a part of their work to inspect live animals to be slaughtered in non-government inspected plants but there was no provision whatsoever for examination of carcasses. The ordinance compares favorably with the provisions contained in the Government regulations there being provision for veterinary inspectors, lay inspectors and a chief meat inspector who must be a graduate of a reputable veterinary college and have had at least five years' practical experience in ante-mortem and postmortem inspection, three of the five years being executive work. The Government employs fifty-four inspectors in the fourteen establishments whose meat products enter interstate commerce.

The ordinance provides that no meat shall be offered for sale in St. Louis unless it has passed Government or municipal inspection and all carcasses, meat or meat products for human food are to be plainly tagged or marked by the inspectors. Similarly, food products unfit for human consumption shall be tagged to show condemnation. All animals will be examined before slaughter and if suspected of being diseased will be marked as a suspect and the marking retained until a postmortem examination has been made. The meat of animals slaughtered elsewhere and brought into the city for sale as human food is subject to inspection by municipal inspectors. All condemned carcasses must be destroyed by adequate means. Special provisions in the ordinance cover sanitation of plants and handling of meats, coloring, adulteration and labeling.

Trade labels bear the trade name of the product, the name of the establishment and the certification "St. Louis Inspected and Passed by the Division of Health."

The establishing of meat inspection is of prime importance to anyone interested in the people's health. But aside from the forward stride in community health there is another angle that is gratifying. The public in St. Louis demanded meat inspection. The story of the passing of the ordinance is that of a small group, the committee on health and public instruction of the St. Louis Medical Society, making the public conversant with the facts that they were not getting inspected meats and that inspected meats were healthier and could be had. It is also the story of the wisdom of a medical society employing a layman as an executive secretary.

CARE OF VETERANS

The second conference held for the promotion of a better understanding between the Veterans' Bureau and the medical profession was held in Chicago, December 30, and a third conference will be held in Washington, D. C., on February 1, 2 and 3. Attending the Chicago conference were representatives of the American Legion, the United States Veterans' Administration, the American Hospital Association and the American Medical Association.

While the results of a conference held by small representations of large organizations must necessarily be somewhat intangible, there were some very definite results of this meeting. These were: (1) A far better understanding of each other's point of view; (2) a better understanding of the Veterans' Administration; (3) an opportunity on the part of the American Medical Association to perform a real service in helping to simplify the disability rating schedule of the Veterans' Administration, and (4) a tentative platform on which all can stand—agreement on revising the law so that veterans may be taken care of by home doctors and hospitals, and a termination of hospital construction except when necessary for the care of patients suffering from nervous and mental diseases and modification as far as possible to fit in with the civilian hospital needs of the future.

The position was taken by the Veterans' Administration representative that the question of costs of the two methods of care was not the important consideration but was important only in so far as related to better care of the veteran; that the Veterans' Administration was not interested in perpetuating a system of Federal medicine, being in fact very much op-

posed to such a system as it was very sympathetic to the practice of medicine, and that it strongly urged the care of acute disease and emergency surgery as convenient as possible to the home at the expense of the Government.

It was brought out that there was no need for increase in tuberculosis hospitals but it was claimed that there was a great need for more hospitals for patients suffering from nervous and mental diseases and that some patients with mental disease are being compensated by the Government and yet are at large. It was generally agreed that this type of patient demanded hospitalization; that the hospital building program of the future should be confined to this group, and that this building program should fit in as nearly as possible with future civilian needs for this type of hospital. It was also shown that the hospital building program of the present was not by any means determined by the Legion or the Veterans' Administration, but largely by congressmen. The extent of the hospital beds necessary to take care of the load imposed upon the Veterans' Administration by Congress was discussed and various estimates were made varying from sixty to one hundred thousand beds. In a discussion of what these beds might be used for after a few years when the veterans' needs were largely satisfied, two suggestions were brought out: (1) Needs for future warfare; (2) the possibility that they might be used for civilian population under a new system of social medicine.

The representatives of the American Hospital Association strongly urged the use of civilian hospitals for all veterans waiting to be hospitalized and also made a plea for the smaller hospitals throughout the country.

In a discussion of the Shoulders' plan, members of the Legion, being representatives of a great body, were not in position to commit themselves. They expressed their continued interest in it and were not in any way opposed to the idea as it would confer an additional benefit on the veteran.

This conference accomplished everything that could be reasonably expected. It is however only a beginning. What small committees decide will have very little effect if not backed by a united and informed profession. The announcement of any program might meet with immediate opposition on the part of the doctors or the veterans at large unless they are sufficiently informed and have a point of view. One should bear in mind in addition that what is going to be accomplished will be largely determined by the American Legion. And it is through cooperation with the Legion that the medical associations will obtain results so it is

expedient that organized medicine become acquainted with the American Legion and its point of view.

It is absolutely essential to the future of medicine in this country that this present Federal hospital program be curtailed to the bone and that the Legion should be informed that we have existing facilities for the medical care of veterans—facilities which are quite adequate for the general population including the wives and children, mothers and fathers, of veterans.

It is urgent that the medical profession contact congressmen and senators and give them an idea of what is going on and how the profession feels about the building of hospitals.

The Shoulders' Resolution, which has aroused the profession to the folly of the present method of care for veterans, or a modification of it can be the solution eventually to be adopted as the simplest and most equitable method of furnishing medical benefits for veterans.

MORTALITY OF THE SCHOOL-AGE CHILD

The mortality for children from 5 to 19 years of age is only a fraction of what it is for children under 5 years or among old people, according to a report by the United States Public Health Service which analyzes the mortality occurrence for this school-age period. The age curve of mortality reaches a minimum at 10 to 14 years. The six most important causes of death among children 5 to 19 years of age are accidents, tuberculosis, heart diseases, pneumonia, diphtheria and appendicitis. Accidents are easily the leading cause of death and automobile accidents constitute about one third of the total accidental deaths. Of diseases causing death, respiratory tuberculosis is the most important for these ages. The mortality of girls 5 to 19 years of age is 15 per cent less than that of boys and of the twenty-eight most important causes of death at these ages girls have a higher rate for 10 causes and boys for 18 causes.

In the period from 1900 to 1927 the death rate from all causes among children 5 to 19 years of age in the original registration states decreased 44 per cent. An analysis of the various causes of mortality during this twenty-seven year period shows respiratory tuberculosis steadily declining and nonrespiratory tuberculosis increasing until 1910 but after that decreasing a little more rapidly than pulmonary tuberculosis. With the exception of the high rates in 1918, 1919 and 1920 pneumonia has caused a few less deaths but when influenza is added to pneumonia there is little or no decline.

Mortality from diseases of the heart has been only slightly higher for persons 5 to 19 years of age. Nephritis of both the acute and chronic types has steadily decreased since 1900, the trend being in marked contrast to that among persons of all ages. Diabetes was slightly higher from 1900 to about 1922 but from 1923 to 1927 the rate has been little more than half of what it was prior to that time. Among persons of all ages there is no such drop in the rate as in these persons 5 to 19 years of age. Appendicitis has increased gradually. Typhoid fever and diarrhea and enteritis have decreased a great deal since 1900, the relative rate for typhoid fever being greater for these ages than that of diarrhea and enteritis.

Diphtheria decreased considerably up to about 1912, fluctuated around the same level for the next eight or nine years and lowered markedly after 1921. Scarlet fever cases have been considerably fewer since 1900 and measles and whooping cough show some tendency to decline. The recorded mortality from meningitis has decreased a great deal since about 1905 while mortality from poliomyelitis has increased since the 1916 epidemic.

The death rate from accidents of all types among children 5 to 19 years of age is slightly higher since 1900 and deaths from automobile accidents are a great deal more numerous since 1906 when they were first tabulated as a separate cause but the relative increase in the rate has not been as great in the past few years as it was prior to 1920. Accidental deaths other than automobile fatalities have been slightly lower since 1900.

ACHIEVEMENTS OF 1931

The year 1931 does not stand out in medical history for any startling advances achieved as does the epoch of the work of Pasteur which was followed in 1865 by Lister's application of antiseptics and asepsis in the treatment of wounds. There are no accomplishments added to medical armamentarium such as the work on gastric digestion by Beaumont, the practical eradication of yellow fever by Walter Reed, the first ovariectomy by Ephraim McDowell or the daring operations by Valentine Mott. But 1931 was not without accomplishments and many of these will no doubt, like the advancements that came before, increase in value as application and practicality are more fully understood. Others which are so far only in the experimental stage may be disregarded but certainly the last year has known no dearth of experimental work and the medical world has been given many new possibilities.

Science Service has tabulated many of the achievements of 1931 and classifies the year as

one in which notable strides have been made. Its listing follows:

Bacteria, visible under the microscope, were changed to invisible, filterable phases when Dr. Arthur I. Kendall of Northwestern University Medical School placed them in a new medium containing protein; he was also able to return them to the visible form and to grow filterable viruses in the new medium and saw the virus through the new Rife microscope as tiny oval blue bodies.

That death may be caused by a lack of magnesium in the diet through a disturbance of the adrenal glands was discovered by Dr. E. V. McCollum and Dr. Elsa Orent of Johns Hopkins School of Hygiene and Public Health.

Discovery that deafness may be caused by an unnatural increase or decrease in the rigidity of the tiny bones of the ear and that pressure on the round window membrane of the ear increases the perception of spoken words and nearly all tones by 50 per cent, was made by Dr. S. J. Crowe of the Johns Hopkins Hospital and Medical School.

Persons may be rendered immune to diseases without developing hypersensitiveness to the particular germ against which they are immunized, is the promise held out by Dr. Arnold R. Rich of the Johns Hopkins Medical School.

A forward step in the battle against leprosy was reported when Dr. Earl B. McKinley of the George Washington University Medical School and Dr. Malcolm H. Soule of the University of Michigan announced that they had isolated the organism which presumably causes this disease and had succeeded in growing it outside the human body.

Discovery of the hitherto unknown germ of smallpox was announced by Prof. J. C. G. Ledingham, director of the Lister Institute of London.

A new hormone, sympathin, similar to the powerful adrenalin, was discovered by Prof. Walter B. Cannon of the Harvard Medical School and is believed by him to be formed in the muscle cells by the action of an impulse from the nerves.

A serum was developed by Dr. W. C. Hueper of the Cancer Research Laboratory of the University of Pennsylvania which may lead to the conquest of the fatal disease, leukemia.

A reenforced attack on drug addiction was made by the United States Bureau of Narcotics, the United States Public Health Service, the American Medical Association and a special committee of the National Research Council in the course of which two research laboratories were established, one at the University of Virginia for chemical analyses and syntheses of alkaloid substances and the other

at the University of Michigan for the biologic testing of narcotics and their substitutes.

A one million volt Cascade roentgen ray tube was made by the General Electric Company and installed at the New York Memorial Hospital to provide more intense radiation for cancer treatment than could be produced by all the world's available radium.

The wood tick which transmits tularemia, Rocky Mountain spotted fever and Colorado tick fever, was announced by investigators in the United States Public Health Service to be the cause of a strange type of paralysis in humans, dogs, sheep, foxes and sometimes in cattle.

A remedy for ringworm of the feet was found in sodium thiosulphate by Dr. William L. Gould, New York.

The successful use of digestive ferments to prevent the formation of adhesions was reported by Dr. Alton Ochsner and Dr. Earl Garside of Tulane University.

As a result of experiments on mice Sir Leonard Hill, British scientist, has declared that diet is not responsible for the development of cancer.

Efforts to find a diagnostic test for early cancer continued; Dr. S. G. T. Bandien of Zeist, Holland, and Dr. Hans Jacques Fuchs of Berlin each announced a test based on examination of the blood.

Two new anesthetics were announced: one, related to the well-known drug veronal, which puts the patient to sleep quicker and yet allows recovery sooner than other forms of anesthesia was produced by Dr. H. A. Shonle of the Lilly Research Laboratories from alcohol, barbituric acid and amyl; the other, a general anesthetic related to ether and ethylene but more rapid and efficient than ether, chloroform or the anesthetic gases, was discovered as he had predicted that it would by Dr. C. D. Leake at the University of California Medical School.

A method of treating pellagra was reported by Dr. Ibrahim Sabry of the Government Hospital, Alexandria, Egypt, who believes the disease to be caused by a poison found chiefly in beans instead of by a dietary deficiency as has been supposed.

Vioosterol or irradiated ergosterol, often given to children in place of cod liver oil, was found to be a new and effective treatment for radium poisoning such as that developed by workers on radium-dial watches, by Dr. Frederick S. Flinn of Columbia University.

Improvement in the hitherto hopeless condition, multiple sclerosis or creeping paralysis, through use of high frequency electric currents was reported by Drs. William H. Schmidt and Benjamin Weiss of Jefferson Medical College.

That calcium chloride relieves the intense pain of lead colic, gallstone colic and urethral colic was discovered by Drs. Walter Bauer, William T. Salter and Joseph C. Aub of the Massachusetts General Hospital, Boston.

Ergot, which naturally grows only as a parasite on living plants, was successfully raised in a laboratory flask by Adelia McCrea of the University of Michigan.

A new method for saving the lives of those who have swallowed bichloride of mercury was developed by Dr. Samuel Serger of Cleveland; it consists of an opening into the cecum and a flushing with water through this opening.

Safe and apparently certain treatment for hookworm was found in the synthetic antiseptic hexylresorcinol by Dr. Veader Leonard of the Johns Hopkins University.

Fleas were found to be carriers of typhus fever, previously thought to be carried only by the body louse, as a result of experiments reported by Drs. R. D. Ryer, A. S. Rumreich and L. F. Badger of the United States Public Health Service.

NEWS NOTES

Five phases of mental hygiene were discussed at an open meeting of the Missouri Society for Mental Hygiene, held in December at the Washington University School of Medicine, St. Louis. Dr. James Lewald, St. Louis, president of the organization, presided. The program included papers on "Psychology and Mental Hygiene," by Dr. H. Meltzer; "Psychiatry and Mental Hygiene," by Dr. P. E. Kubitschek, and "Mental Hygiene and Pediatrics," by Dr. Paul J. Zentay.

Dr. C. Jeff Miller of New Orleans delivered the tenth annual Hodgen Lecture under the auspices of the St. Louis Surgical Society and the Medical Fund Society at the St. Louis Medical Society Auditorium on January 12. He chose for his title "A Clinical Consideration of Hysterectomy with a Brief Note on Some Points of Technic." Dr. Miller is professor of gynecology in Tulane University School of Medicine.

These lectures have been presented for the last ten years in commemoration of Dr. John T. Hodgen, one of St. Louis' most distinguished surgical heritages. He was one of the greatest influences in St. Louis and the Mississippi Valley in developing surgery during his time. Dr. Hodgen came into prominence during the Civil War and his career closed in 1882. From 1865 until his death he was professor of surgery in the St. Louis Medical College.

Dr. Thomas Parran, Jr., New York State Commissioner of Health, has announced that Governor Roosevelt has approved the acquisition of the second of three sites for state tuberculosis sanatoria authorized by the last New York legislature. The new site, located north of the City of Oneonta, is approximately 1500 feet above sea level and commands an attractive view of the Susquehanna Valley. It consists of approximately two hundred acres the topography of which lends itself admirably to a tuberculosis hospital development. The proposed hospital will serve seven counties of the state.

The United States Civil Service Commission announces open competitive examination for a cytologist. Applications must be on file with the Commission at Washington, D. C., not later than February 9, 1932. The examination is to fill a vacancy in the United States Public Health Service for duty at Boston. The duties will be to conduct research on the growth of normal and malignant cells in vitro; to study the morphology of cells; to cooperate in radiometric studies; and to conduct other studies in cytology in connection with cancer investigations. Competitors will not be required to report for examination but will be rated on their education, training and experience. Full information and application blanks may be obtained at the post office or customhouse in any city or from the United States Civil Service Commission, Washington, D. C.

Further evidence indicating that the infantile paralysis germ probably enters the body by way of the nose is reported in the December 26 issue of *Science* by Dr. Simon Flexner of the Rockefeller Institute for Medical Research, New York City. Dr. Flexner calls attention to the regular time interval between exposure to infantile paralysis and development of the disease. When several cases of the disease occur in a family or a group of children the first symptoms of the disease appear in all the children at the same or nearly the same time. The same regularity of incubation is seen in monkeys that have been inoculated by dropping a potent virus in the nose. When the organisms are introduced into monkeys in other ways the incubation period is not regular in these animals, in fact, the disease does not always develop from this mode of infection.

Dr. C. P. Hampton, University City, was appointed health commissioner of University City to succeed Dr. Leo P. FitzGerald, resigned. Dr. Hampton is chief resident physician of the St. Louis County Hospital.

A substance appearing to have remarkable power of controlling the growth of living beings and possibly of value in the treatment of cancer is being investigated in the laboratories of the Royal College of Surgeons of England and at King's College in London, Science Service informs us. The discovery is due to a young biochemist, J. H. Thompson, whose investigations seem to indicate that an extract of the parathyroid gland of cattle will restrict or prevent growth without endangering the health of the organism. The application of the method to the treatment of cancer is being tested in several London hospitals with what appear to be encouraging results.

The effect of the extract was observed on rats, rabbits, water cress and the axolotl, a form of salamander. In all cases the growth-retarding effect has been very marked. Treated rabbits have remained at about half the size of their untreated brothers and sisters and the germination of water cress seeds was entirely stopped by a 20 per cent solution of the extract.

A new understanding of the important effects which climate has on the health and body machinery of human beings was described by Dr. Clarence A. Mills of the University of Cincinnati College of Medicine at the meeting of the American Society of Tropical Medicine in New Orleans November 18 to 20.

Although the stimulating climate of the northern and northwestern parts of the United States is popularly considered more healthful than the sluggish, semitropical climate of the South, Dr. Mills found that in some regions the climate appears to have too stimulating an effect on certain bodily processes and that the death rates from certain diseases, such as diabetes, exophthalmic goiter and Addison's disease, were higher. His theory is that in such regions the drive of the stimulating climate forces an increasing number of people to live at such a fast pace that their body machinery breaks down. Suicides, the effect of mental breakdowns, he also found to be most frequent where the climate is too stimulating. He advised that cases of mental or bodily breakdown should be sent south for treatment when possible, so that they might have the benefit of the lessened vigor of the climatic drive.

Dr. W. Byron Black, Kansas City, was the guest of the Golden State Medical Society at Hays, Kansas, December 10, and delivered an address on "Every-Day Eye Pathology."

Gangrene from exposure to cold occurs more often in the temperate zone than in the Arctic regions.

Freezing fruits and vegetables to preserve them without first sterilizing them by heat does not kill the botulinus germ if it were present in the food originally, Dr. Lawrence H. James of the United States Bureau of Chemistry and Soils told the Society of American Bacteriologists in Baltimore December 29. However, there is no danger of botulinus poisoning if the frozen food is cooked and used immediately after defrosting. Dr. James subjected the spores of the botulinus bacillus to the same degree of freezing that is used in commercial cold storage methods. He found that the number of these spores from which new botulinus germs could develop was not reduced by the cold temperatures regardless of the length of time the temperatures were maintained. On the other hand, no toxin had developed from the spores during the freezing.

The St. Vincent de Paul Hospital, Kingshighway and Spaulding avenues, St. Louis, was designated the only building completed in St. Louis during 1930 which met the high standards of a better building contest conducted by the civic development bureau of the St. Louis Chamber of Commerce. The award, a bronze tablet, was bestowed at the annual meeting of the chamber on January 14 because of the esthetic as well as the practical merit of the building, for "the good general design and appearance, both as to exterior and interior, good mechanical equipment and high quality of workmanship." Awards were presented to the owners, the Daughters of Charity of St. Vincent de Paul, and to the architects, engineers and contractors associated in the design and construction of the hospital.

Dr. Horace W. Carle, St. Joseph, was elected president of the Missouri State Board of Health for 1932, it was announced January 11. Other officers elected are: Vice president, Dr. E. Sanborn Smith, Kirksville; secretary and health commissioner, Dr. James Stewart, Jefferson City. Members of the board are: Drs. W. A. Clark, Jefferson City; H. L. Kerr, Crane; H. S. Gore, Linn, and Francis M. McCallum, Kansas City.

Dr. Karl Menninger, Topeka, Kansas, psychiatrist and author of "The Human Mind," conducted a symposium on children's behavior at the John Burroughs School, St. Louis, on January 11 and 12. Dr. Menninger came to St. Louis at the invitation of the parents' committee of the school. He also spoke before the Town Club on "Psychopathology in the Daily Newspaper."

The disease of pellagra was noted in the United States as early as 1864.

Of the 3,000,000 cases of communicable disease reported in a year in the United States one half occur among children.

Twenty-four St. Louis urologists met at a dinner January 7 and formed the St. Louis Urological Society. The organization proposes to give united support and aid to scientific urology in St. Louis, to cooperate with the St. Louis Medical Society and to promote fellowship among its members.

Dr. Bransford Lewis was elected president of the new society. Dr. J. Hoy Sanford is vice president and Dr. Grayson Carroll is secretary-treasurer. Drs. John R. Caulk, Cyrus E. Burford and Helmuth H. Kramolowsky were named a committee to formulate a constitution and by-laws to be presented at a called meeting in the spring.

A new method of detecting cancer in its early stages has been developed by Dr. Hans Jacques Fuchs, member of the Physiological Institute of the Veterinary University of Berlin. An account of the new method was given to *Science Service* and is scheduled to be published soon in a German scientific journal. Two thousand cases have been successfully diagnosed by the new method, the diagnosis being confirmed by operation or dissection. The method also makes it possible to determine the presence or absence of cancer when an infectious disease occurs at the same time. Further, it is claimed that by this method the success of surgical or radiological treatment of cancer can be controlled. The new method depends on the digestion of serum from the blood of a suspected cancer patient with fibrin prepared from the blood of a normal person and with blood of a person known to have cancer. The digestion goes on for ten hours at a temperature of 104 degrees Fahrenheit. The protein is then removed from these samples and the amount of nonprotein nitrogen present in each is determined. Depending on the amount of nonprotein nitrogen present, it is possible to make a diagnosis as to whether the suspected case is one of cancer or not. A diagnostic test for cancer, such as this is hoped to be, will be particularly valuable because modern methods of treatment by surgery and radiation are chiefly successful only in the early stages of the disease but when cancer attacks the internal organs it is practically impossible to detect it in the early stages by present methods of diagnosis.

Dr. Richard Sutton, Jr., Kansas City, sailed on January 29 for a visit of several months with Sir Norman Walker at the University of Edinburgh.

A number of young trained home economic workers who are unable to find jobs themselves have volunteered their services as nutritionists to the American Red Cross in Washington, D. C. They propose to teach others, who are reduced like themselves to straitened circumstances, how to spend money for food more wisely, how to reduce other household expenses and how to prepare budgets which will safeguard health. In return the local Red Cross chapters will meet the living expenses of these volunteer nutritionists and pay transportation to and from their homes. One such volunteer is already at work at Marion, Ohio.

The tuberculosis bacillus has a double life, Dr. Ralph Mellon of Western Pennsylvania Hospital's Institute of Pathology, Pittsburgh, announced to the Society of American Bacteriologists in Baltimore, December 28. Dr. Mellon found that the ordinary rod-like tubercle bacillus may metamorphose into granules having little toxicity. These granules are ultramicroscopic and pass through the finest filters but may be brought back to a visible form when fed proper food. The granules are also acid-fast. The granules in turn may develop into the ordinary acid-fast, virulent tubercle bacilli or they may develop into other bacilli, not acid-fast and not virulent, which Dr. Mellon finds look like the bacilli that cause diphtheria.

Dr. Mellon warned that even though the familiar form of the tubercle bacillus may disappear from the tissues of the body danger still threatens the patient in the possible unsuspected presence of a variant form of the germ which may develop disease-producing powers. He thinks this new chapter in the life cycle of the tubercle bacillus may explain the disputed action of BCG.

Dr. Chevalier Jackson, Philadelphia, was the guest of honor at a joint meeting of the American Laryngological, Rhinological and Otological Society and the Chicago Laryngological and Otological Society in Chicago on January 4. Dr. Jackson has won world-wide renown by devising the bronchoscope which permits the visualization and the extraction of foreign bodies in the respiratory tract. Among the guests were Dr. Edward H. Cary, Dallas, president-elect of the American Medical Association, and Dr. Morris Fishbein, Chicago, editor of the *Journal of the American Medical Association*.

Dr. John F. Hardesty, St. Louis, was re-elected medical director of the St. Louis Society for the Blind at a meeting of the society late in December.

Experiments just concluded at the University of Illinois Research Hospitals, Chicago, and reported by *Science Service*, indicate that air filters are practicable in relieving the distress of hay-fever patients. The experiments were conducted in one of the wards in which a machine was installed to draw air from the outside through a number of paper filters. More than 100 persons were observed. Those with hay-fever were kept in the room only at night and permitted to pursue their customary activities during the daytime. Patients with asthma were kept in the room 24 hours. The hay-fever cases were relieved of most of their symptoms in from one half to one and a half hours after entering the room. They slept well but the relief was not complete as most of them had a mild attack of hay-fever in the morning on awakening. Patients suffering from asthma caused by the fall pollens were only partially relieved, several not until they had been in the room four or five days. The asthma returned a few hours after leaving. Further work is being planned by the University group for next year with improved filtration machinery.

The competition for the Henry S. Wellcome medal and prize, 1931, was open to all medical officers, acting assistant and contract surgeons of the Army, Navy, Public Health Service, organized militia, U. S. Veterans' Bureau, U. S. Volunteers, and of the reserves of the United States, and commissioned medical officers of foreign military services. A gold medal and a cash prize of \$500 was offered for the best paper on one of the following subjects:

1. The Influence of Epidemic Diseases Upon Military Operations in the History of the Western Hemisphere.

2. The Use of Hospital Ships in Time of War to Conform with the Geneva Convention Regulations.

The first theme was chosen by the winner, Col. George A. Skinner, M.C., D.S.M., Army Building, Omaha, Nebraska, Surgeon of the VII Corps Area.

This Wellcome Prize Essay will be found in the *Military Surgeon*, December, 1931. The award was presented to Colonel Skinner at the annual meeting of the Association of Military Surgeons of the United States, New Orleans, 1931.

The first real hospital for the mentally afflicted appears to have been established in Spain in 1409.

Cottonseed flour is gaining in importance as a food because it contains vitamins B and G and other nutritive substances and the price is relatively low.

Dr. Dan G. Stine, Columbia, was recently elected to honorary membership in the University of Missouri Chapter of Phi Beta Kappa.

Dr. Edmund Prince Fowler, New York, president of the American Laryngological, Rhinological and Otological Society, was in St. Louis January 18, 19 and 20 and delivered addresses to the St. Louis Ear, Nose and Throat Club and the St. Louis League for the Hard of Hearing. He also conducted clinics at McMillan Hospital.

The February Clinic of the Kansas City Southwest Clinical Society will be held at St. Luke's Hospital, Kansas City, on Tuesday, February 9, with Dr. Wilber E. Post, Clinical Professor of Medicine, Rush Medical School, Chicago, as guest speaker. Dr. Post will discuss "Some Recent Developments in the Study of Nephritis." In the evening the Rush Medical School alumni will give a dinner in honor of Dr. Post at the Hyde Park Hotel. After dinner Dr. Post will deliver an address at the meeting of the Jackson County Medical Society.

The January Clinic was held at Research Hospital and brought to Kansas City as the honor guest Dr. William S. Middleton, Associate Professor of Medicine, University of Wisconsin Medical School, Madison. The Round-Table Conferences, an added feature of the hospital clinics, were held directly following luncheon at the hospital. It is the consensus of opinion of both the conductors of the conferences and the members present that the conferences will prove an instructive feature of the morning clinics.

The St. Louis Trudeau Club will hold its next regular meeting Thursday, February 4, at 8:15 p. m. in the St. Louis Medical Society building. The following program has been arranged: "Two Unusual Cases of Aneurysm," by Dr. M. G. Seibel; "Epituberculosis," by Dr. L. E. Goldman; "The Use of Culture Methods in the Diagnosis of Tuberculosis," by Dr. R. S. Muckenfuss; "The Antiquity of Pathological Processes," by Dr. H. A. McCordock. Members of the State Medical Association are cordially invited to attend.

The American Association for the Study of Goiter is again offering an award of \$300 for the best essay presented at the annual meeting to be held in Hamilton, Ontario, Canada, June 14, 15 and 16, 1932. The competing papers must be based upon original research on any phase of goiter. The award is offered as a means of stimulating research work, especially in the cause of goiter. The manuscripts must be in English and should be submitted to the corresponding secretary, Dr. J. R. Yung, Rose Dispensary building, Terre Haute, Indiana, not later than March 15. Manuscripts submitted after this date will be held for the next year or returned at the author's request.

The award of the 1931 Kansas City meeting was given to Dr. Bruce Webster, Presbyterian Hospital, New York City, for his essay, "Studies in the Etiology and Nature of Simple Goiter as Produced Experimentally in Rabbits." The following received honorable mention: Drs. W. H. Cole and N. A. Womack, St. Louis, "Experimental Production of Pathologic Lesions of the Thyroid Gland by Infective Means." Drs. J. Lerman and J. H. Means, Boston, "The Gastric Secretion in Exophthalmic Goiter and Myxedema." Dr. C. O. Rice, Minneapolis, "Life Cycle of the Thyroid Gland in Minnesota."

The following speakers responded to requests of the Postgraduate Committee of the State Association to deliver addresses at recent meetings of the component county medical societies:

Dr. Charles E. Hyndman, St. Louis, attended a joint meeting of the Jackson County Medical Society, the Kansas City Southwest Clinical Society and the Kansas City Bar Association held in Kansas City, November 10, 1931. Dr. Hyndman delivered an address on "The Functions and Activities of the Medical Defense Committee of the Missouri State Medical Association."

Dr. Albert S. Welch, Kansas City, spoke before the Jasper County Medical Society at Joplin, November 10, 1931, on "The Clinical Interpretation of Essential Laboratory Reports."

Drs. Robert Koritschoner, Kansas City, Missouri, and R. M. Isenberger, Kansas City, Kansas, were guests of the Nodaway County Medical Society at Maryville, November 13, 1931. Dr. Koritschoner gave a talk on "The Theories of the Etiology of Neoplasms" and Dr. Isenberger read a paper on "The Actions, Dangers, and Uses of Local Anesthetics."

The Linn and Chariton County Medical Societies met jointly on November 17, 1931, at Marceline, and had as their guests Drs. D. R. Black and J. E. Welker, of Kansas City. Dr.

Black gave a talk on "The Treatment of Diabetes" and Dr. Welker read a paper on "The Therapy of Cardiac Disease."

On November 30, 1931, Drs. French K. Hansel and J. Albert Key, of St. Louis, addressed the St. Francois-Iron-Madison County Medical Society at Farmington. Dr. Hansel gave a talk on "The Relation of Allergy to Nose and Throat Conditions and Its Relation to General Medicine." Dr. Key discussed "Osteomyelitis."

The Five-County Medical Society was host to Drs. John R. Caulk and H. H. Kramolowsky, of St. Louis, at Caruthersville, December 8, 1931. Dr. Caulk addressed the members on "Disorders of the Prostate" and Dr. Kramolowsky showed a motion picture titled "Urological Diagnosis."

Drs. Fred V. Emmert and Paul J. Zentay, of St. Louis, attended the December 17 meeting of the Chariton County Medical Society at Salisbury. Dr. Emmert read a paper on "Post-partum Hemorrhage" illustrated with lantern slides; Dr. Zentay spoke on "The Treatment of Pneumonia in the Child."

Drs. A. A. Werner and A. P. Munsch, of St. Louis, were guests of the St. Francois-Iron-Madison County Medical Society at Bonne Terre, December 18, 1931. Dr. Werner gave a thorough discourse on "Thyroid Diseases" and Dr. Munsch read a paper on "Arthritis."

On January 5 Dr. Lawrence D. Thompson, St. Louis, read a paper before the Jasper County Medical Society at Joplin entitled "The Changing Relationship Between Physician and Patient."

Three St. Louis physicians, Drs. Paul C. Schnoebelen, J. E. Cook and Paul J. Zentay, attended the January 8 meeting of the Marion County Medical Society held at Hannibal and gave a symposium on pneumonia. Dr. Schnoebelen discussed "The Correlation of the Clinical and Roentgenological Findings in the Diagnosis of Pneumonia." Dr. Cook spoke on "The Treatment of Pneumonia in the Adult," and Dr. Zentay talked on "The Treatment of Pneumonia in the Child."

Drs. H. H. Helbing and B. Y. Alvis, of St. Louis, attended a meeting of the St. Francois-Iron-Madison County Medical Society at Farmington, January 21. Dr. Alvis presented a paper entitled "The Importance of the General Practitioner in the Prevention of Blindness" and Dr. Helbing gave a talk on "Salpingitis."

The following articles have been accepted for New and Nonofficial Remedies:
Lederle Laboratories, Inc.

Diphtheria Toxin-Antitoxin Mixture, 0.1 L+ (Goat)

H. K. Mulford Co.

Ivyol-Poison Oak Extract—Mulford

Hypo Units Ivyol-Poison Oak Extract

U. S. Standard Products Co.

Typhoid Vaccine, one 5 c.c. vial package

Typhoid Vaccine, one 20 c.c. vial package

Typhoid Paratyphoid Vaccine Combined, one 5 c.c. vial package

Typhoid Paratyphoid Vaccine Combined, one 20 c.c. vial package

Ciba Co., Inc.

Tablets Dial—Ciba, 0.03 Gm. ($\frac{1}{2}$ grain)

Clinadol Co., Inc.

Clinadol Co.'s Cod Liver Oil Concentrate

Lederle Laboratories, Inc.

Surgical Maggots—Lederle

Wm. S. Merrell Co.

Fibrogen Local—Merrell

Fibrogen Local—Merrell, 7 c.c. vials

G. D. Searle & Co.

Gold Sodium Thiosulphate—Searle

Ampules Gold Sodium Thiosulphate—Searle, 1 c.c.

Ampules Gold Sodium Thiosulphate—Searle, 2 c.c.

Ampules Gold Sodium Thiosulphate—Searle, 5 c.c.

E. R. Squibb & Sons

Thromboplastin Local—Squibb

Thromboplastin Local—Squibb, 20 c.c. vial

The following articles have been exempted and included with the List of Exempted Medicinal Articles (New and Nonofficial Remedies, 1931, p. 477):

Lederle Laboratories, Inc.

Fluid Extract of Ergot (Lederle)

Lederle Laboratories, Inc.

Ferric Ammonium Citrate—Lederle capsules, 0.5 Gm.



OBITUARY

S. GROVER BURNETT, M.D.

After many years of active practice, Kansas City has lost its celebrated neurologist and psychiatrist, Dr. S. Grover Burnett.

For several decades he was a shining light in nervous and mental diseases not only in his home town but throughout the Missouri Valley. His papers read before the medical societies of the middle west were broad, scientific, and ably defended. His was the last word in cases of nervous disease. Nor did he ever descend from his lofty standard of study, observation and practice. He was essentially a student, and not given to levity. His status of

living, dress, bearing and demeanor was immaculate and dignified to the utmost; he enjoyed things medical rather than social. He occupied the chair of neurology in the University Medical College of Kansas City and maintained a sanitarium for the relief of neurological cases thoroughly in keeping with his high standard of life, study and professional ethics. He carried the mien of an aristocrat in bearing and in his work. He enjoyed a very large practice, a host of friends and a high professional standing. He has left an honorable record of ethical professional work, of sound citizenship, and a clean life, and a circle of friends who mourn his departure.

Dr. Burnett was graduated from the University of the City of New York in 1886, and received his inspiration in electrotherapeutics from Morton and Snow. He died in St. Joseph's Hospital, Kansas City, Mo., September 11, 1931, of encephalomalacia, aged 69.

He served many years as Associate Editor of the *Medical Herald*, and was the editor and owner of the *Kansas City Medical Index-Lancet*, which was later merged with the *Medical Herald*.—J. M. B. in the *Medical Herald*.

GEORGE A. KREBS, M.D.

Dr. Krebs was born of sound German Lutheran stock in St. Louis, May 12, 1868. He received all his preliminary education in the south St. Louis public schools. A very friendly and forceful boy, no wonder he was considered one of the best prospects to graduate from the St. Louis College of Physicians and Surgeons in the class of 1888. He settled down in the midst of his childhood associates and progressively built up probably the largest general practice of that section.

Notwithstanding the constant demands of so large a practice, he managed to find time to take a prominent part in numerous business and fraternal associations of that section. So it is only in keeping to add that throughout his career he was an active member of the St. Louis Medical Society. And then, when the pressure got too severe, he would relax by occasional fishing and hunting jaunts into his beloved Ozarks. But these strenuous efforts, toned down to be sure by advancing years, apparently caused him to succumb to complications following a relatively minor injury on December 5, 1931. His whole philosophy of life was to wear out in use rather than rust in idleness.

To the numerous friends and patients, and especially to the surviving widow and son, a doctor of dentistry, the St. Louis Medical Society proffers deepest sympathy in our mutual loss.—M. P., in the *Bulletin* of the St. Louis Medical Society.

BAYLOR MONROE SPOTTS, M.D.

Dr. Baylor M. Spotts, Marshall, a graduate of the Missouri Medical College, St. Louis, 1891, died October 18, 1931, after an illness of three weeks. He was 65 years of age.

Dr. Spotts was born in Howard County. After completing his medical studies he located in Marshall where he practiced for three years. He moved to Blackburn and continued his practice there but in 1894 he returned to Marshall where he remained in active practice until the time of his illness. During the thirty-seven years that he had followed his profession in Marshall he had gained a large circle of friends. He was loved by his patients and by all who knew him.

Dr. Spotts was an interested and an early participant in organized medicine and the members of the medical profession mourn his death as do his friends and family.

He is survived by his widow, Mrs. Edith Campbell Spotts of Marshall, two daughters and three granddaughters.

ROY JEFFERSON OWENS, M.D.

Dr. Roy J. Owens, Mill Spring, a graduate of the St. Louis College of Physicians and Surgeons, 1914, died in the Missouri Baptist Hospital, St. Louis, September 28, 1931, of asthma and heart disease. He was 42 years of age.

Dr. Owens was born near Mill Spring in Wayne County. After completing his medical studies he entered practice with his father, the late Dr. Richard J. Owens, at Mill Spring and was continuously in practice there throughout his medical career except for the time he spent in military service. During the World War Dr. Owens was a lieutenant in the Medical Corps and served at Fort Riley, Kansas, and at Fort Sam Houston, Texas. While at the latter location he contracted pneumonia which was followed by asthma and heart disease and ultimately caused his death.

Dr. Owens was a member of the Wayne County Medical Society and was secretary-treasurer of the Society in 1928. He was recognized as an able physician and a public spirited citizen. He had countless friends in all walks of life and his death brought grief to his family, his friends, the community in which he lived and to the medical profession.

He is survived by his widow, Mrs. Inez Owens, two daughters, his mother, two sisters and two brothers.

HERBERT C. POWERS, M.D.

Dr. Herbert C. Powers, Joplin, a graduate of Central Medical College, St. Joseph, 1903, died at his home of angina pectoris on December 16, 1931. He was 51 years of age. Dr. Powers

had been in ill health for more than a year but his condition had not been considered alarming up to a few hours preceding his death.

Dr. Powers was born in St. Joseph. He received his preliminary education in Missouri Valley College in Marshall but returned to St. Joseph for his medical study. He later took graduate work in medicine at the New York Polyclinic and other clinics. His first practice was at Zincite from 1903 to 1905. The next six years he spent at Chitwood and in 1911 established his office in Joplin. He had practiced continuously in Joplin from that time, building for himself an outstanding reputation as a surgeon. In recent years most of his work had been confined to surgery and he had served on the staffs of both Freeman and St. John's hospitals. He had taken an active part in the establishment of Freeman Hospital.

During the World War Dr. Powers held the rank of captain in the Army Medical Corps, serving on the disability board at Camp Pike, Little Rock, Arkansas.

Dr. Powers was always interested in the activities of his profession. He was president of the Jasper County Medical Society in 1920, an active member of the State Medical Association and a Fellow of the American Medical Association. He was also active in civic affairs and in the church. He is mourned by his colleagues and a host of friends.

He is survived by his widow, Mrs. Beulah Sharp Powers, and two sons both of whom are studying to become physicians.

The following editorial appeared in the *Joplin Globe*:

Individuals sometimes get to thinking money is the most important thing, but communities know better. From the community standpoint, individuals and the service they offer are paramount. The wealth and worth of any community depend upon the number and quality of its citizens who serve.

This fact always is brought home with emphasis when some capable and highly regarded citizen passes on. Joplin has suffered the loss of a number of fine citizens in recent months, but none with a greater sense of untimely loss and infinite regret than that of Dr. Herbert C. Powers who was buried yesterday.

No local citizen understood Joplin any better than Dr. Powers. None had "grown up with it" more truly nor loved it more. Beginning his professional career at Zincite, then removing to Chitwood, and finally to Joplin in 1911, he had been through and a part of the ebb and flow of the city's tides of prosperity and growth. Because he himself began in a humble way, he had deep understanding and sympathy with poverty and human unhappiness. Practicing at first as a "country doctor," he knew what it was to be family counselor as well as family physician.

For many months Dr. Powers had understood that death might be just around the corner but the knowledge in no wise embittered or saddened him. A doctor learns that life is like that and does not

protest. But it was tragedy for his intimate friends and for scores of persons who had come to rely upon his professional skill and to draw upon his fathomless reserves of friendly interest and affection. For he was the type of man who gets much from life and gives much. He loved people. His mental attitude was one of admiration for people's virtues and tolerance for their defects. He thought most people deserving and admirable and sweet, and people who think that way invariably are themselves deserving, admirable and sweet.

In the passing of Dr. Powers, Joplin and this community lost a highly skilled and exceptionally capable physician and surgeon. But it lost more than that. It lost one of God's finest gentlemen.

The Jasper County Medical Society adopted the following resolutions on the death of Dr. Powers:

WHEREAS, It has pleased the Great Physician to remove from our midst Dr. Herbert Clifton Powers, be it

Resolved, That in his being taken away this Society has lost one of its most active and honored members, and the community a progressive and beloved citizen, and be it further

Resolved, That we express our sympathy to the family and direct that a copy of these resolutions be spread on the minutes of the Society and a copy sent to the family of Dr. Powers.

LEROY W. BAXTER

ROBERT L. NEFF

H. D. MCGAUGHEY

Committee

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL FOR 1932

(UNDER THIS HEAD WE LIST SOCIETIES WHICH
HAVE PAID DUES FOR ALL THEIR MEMBERS)

HONOR ROLL

Ste. Genevieve County Medical Society,
December 16, 1931.

Miller County Medical Society, December 23, 1931.

Mercer County Medical Society, December 24, 1931.

Camden County Medical Society, January 5, 1932.

Johnson County Medical Society, January 20, 1932.

MISSOURI STATE MEDICAL ASSOCIATION—74TH ANNUAL SESSION

Jefferson City, May 23, 24, 25, 26, 1932

PRELIMINARY PROGRAM

Guests

Bell, E. T., Minneapolis, Minn.: A Clinical and Pathological Study of Primary Hypertension.

In Symposium on Diseases of the Kidney: A Clinical and Pathological Study of Glomerulonephritis and Nephrosis.

Cary, Edward H., Dallas, President-Elect, American Medical Association: Title to be announced.

James, Mr. J. J., Kansas City: Presence of Syphilis in Compensation Cases From the Standpoint of the Workmen's Compensation Commission. (In Symposium on Syphilis.)

Lee, Burton J., New York City: The Treatment of Cancer of the Breast From the Standpoint of the Radiologist: Treatment of Metastatic Changes. (In Symposium on Carcinoma of the Breast.)

Middleton, Wm. S., Madison, Wis.: Syphilis of the Circulatory System. (In Symposium on Syphilis.)

Shambaugh, George E., Chicago: Mastoid Disease. (In Symposium on Diseases of the Ear, Nose and Throat.)

Symposiums

Symposium of Diseases of the Ear, Nose and Throat:

Connell, E. S., Kansas City: Sinus Disease.

Shambaugh, George E., Chicago: Mastoid Disease.

Sauer, W. E., St. Louis: Sinus Thrombosis.

Gilkey, Harry M., Kansas City: Thymic Deaths. Symposium on Carcinoma of the Breast:

Jackson, Jabez N., Kansas City: Clinical Manifestations of Diseases of the Breast.

Ogilvie, John H., Kansas City: The End-Results in the Surgical Treatment of Carcinoma of the Breast.

Lockwood, Ira H., Kansas City: X-Ray Examination of the Breast.

Lee, Burton J., New York City: The Treatment of Cancer of the Breast From the Standpoint of the Radiologist: Treatment of Metastatic Changes.

Symposium on Diseases of the Kidney:

Bell, E. T., Minneapolis, Minn.: A Clinical and Pathological Study of Glomerulonephritis and Nephrosis.

Caulk, John R., St. Louis: Tuberculosis of the Kidney.

Burford, C. E., St. Louis: Tumors of the Kidney.

Hoffmann, R. Lee, Kansas City: Stones and Pyogenic Infections.

Symposium on Syphilis:

Middleton, Wm. S., Madison, Wis.: Syphilis of the Circulatory System.

Schwab, Sidney I., St. Louis: Syphilis of the Nervous System.

O'Reilly, Archer, St. Louis: Syphilis of the Osseous System.

Dennie, Charles C., Kansas City: Hereditary Syphilis.

James, Mr. J. J., Kansas City: Presence of Syphilis in Compensation Cases From the Standpoint of the Workmen's Compensation Commission.

Stookey, Paul F., Kansas City: Presence of Syphilis in Compensation Cases From the Standpoint of the Physician.

Scientific Papers

Allen, Edgar, Ph.D., Columbia: Hormone Control of Changes in the Endometrium During the Menstrual Cycle.

Anderson, A. L., Springfield: The Value of Routine Basal Metabolism in the Examination of Patients.

Chandler, John F., Oregon: Dispensing as an Art.

Elliott, B. Landis, Kansas City: The Connections and Diseases of the Cerebellum.

Emmert, Fred, St. Louis: The Care of the Breasts During Pregnancy and Puerperium; Illustrated with Lantern Slides.

Ginsberg, A. Morris, Kansas City: Fever in Thyrotoxicosis.

Glassberg, B. Y., St. Louis: Diabetes Mellitus.

Glenn, E. E., Mount Vernon: Types of Onset in Pulmonary Tuberculosis.

James, J. D., Springfield: Improved Hospital Service and the Public.

Johnson, Emsley T., Kansas City: Title to be announced.

Kauffman, Daniel E., St. Louis: Arthritis of the Knee.

Kramolowsky, H. H., St. Louis: Urological Diagnosis (Motion Picture).

Lamb, H. D., St. Louis: Foci of Attack in the Prevention of Blindness in Missouri.

Lemoine, A. N., Kansas City: Advances in Ophthalmology.

Lowenstein, Paul S., St. Louis: Respiratory Infections That Mimic Appendicitis.

Luton, Sinclair, St. Louis: The Clinical Use of Digitalis.

Munsch, A. P., St. Louis: Arthritis.

Myers, B. L., Kansas City: Peripheral Burn, Pathology and Treatment.

North, E. P., and Jones, Vincent L., St. Louis: Retinal Detachment Subsequent to Proliferative Changes and Pigment Epithelium Simulating Neoplasm.

Ockerblad, N. F., Kansas City: The Correction of Vesical Neck Obstructions by Means of a Resectoscope.

Pflaum, C. C., Columbia: A Postmortem Analysis as to Etiology in Seven Hundred Forty-Two Cases of Peritonitis.

Post, M. Hayward, St. Louis: The Incidence of Incipient Cataract in Ophthalmic Practice: Consideration of Its Treatment.

Rainey, Warren R., St. Louis: Colostomy; illustrated with lantern slides.

Sanford, J. Hoy, St. Louis: Present Day Management of Renal and Ureteral Stones.

Spector, H. I., St. Louis: Recent Advances in the Etiology and Treatment of Acute and Chronic Suppuration of the Lungs.

Stryker, G. V., St. Louis: Keratoses of the Hands and Face.

Tobias, Norman, St. Louis: The Modern Management of Acne Vulgaris.

Tripodi, A. M., and Sherwin, Charles F., St. Louis: Experimental Transplantation of the Pancreas Into the Stomach. (Preliminary Report.)

AUDRAIN COUNTY MEDICAL SOCIETY

At the annual meeting of the Audrain County Medical Society held at Mexico, December 28, 1931, the following officers were elected for 1932: President, Dr. R. W. Berrey, Mexico; vice president, Dr. J. Frank Harrison, Mexico; secretary-treasurer, Dr. H. C. Brashear, Mexico; delegate, Dr. Fred Griffin, Mexico; alternate delegate, Dr. R. S. Williams, Mexico.

H. C. BRASHEAR, M.D., Secretary.

BENTON COUNTY MEDICAL SOCIETY

The officers of the Benton County Medical Society were reelected to serve during 1932, as follows: President, Dr. J. M. Edwards, Cross Timbers; secretary, Dr. James A. Logan, Warsaw.

JAMES A. LOGAN, M.D., Secretary.

BUCHANAN COUNTY MEDICAL SOCIETY

Meeting of December 2, 1931

The following officers were elected to serve the Buchanan County Medical Society during the ensuing year: President, Dr. A. E. Burgher, St. Joseph; vice president, Dr. Louis C. Bauman, St. Joseph; secretary, Dr. Emmett F. Cook, St. Joseph; treasurer, Dr. J. M. Bell, St. Joseph (reelected); delegate, Dr. John C. Whitsell, St. Joseph (term expires, 1933); alternate delegate, Dr. J. T. Stamey, St. Joseph. Dr. W. T. Elam, St. Joseph, holds over from last year as delegate and Dr. E. M. Shores, St. Joseph, as alternate delegate. Dr. Floyd H. Spencer, St. Joseph, was elected a member of the board of censors for three years, the other members of the board being Dr. W. H. Minton, St. Joseph (term expires, 1933); Dr. Daniel Morton, St. Joseph (term expires, 1932). Dr. W. T. Elam, St. Joseph, was reelected a member of the board of trustees. The president appointed Dr. W. C. Proud, St. Joseph, as a member of the Auxiliary Committee on Public Policy.

Meeting of January 6, 1932

The first meeting of the Society for 1932 was held at St. Joseph, January 6. There were 28 members present. In the absence of President Burgher, the vice president, Dr. Louis C. Bauman, St. Joseph, called the meeting to order. After the reading of the minutes of the previous meeting the vice president relinquished the chair to the president who had arrived a few minutes late.

The application of Dr. Judson M. Hughes, Hamburg, Iowa, for membership by transfer from the Fremont County (Iowa) Medical Society, was read and on vote referred to the board of censors.

Dr. Daniel Morton, St. Joseph, proposed the following change in the By-Laws relating to membership in Chapter 1, Section 2: Strike out the words "sixty-four years" and substitute therefor the words "seventy-five years" so that the Section when amended shall read as follows:

Section 2. There shall be two classes of members as follows: (A) Active members. They shall control and shall have all the privileges of the Society. (B) Honorary members. They shall be members of this Society who have reached the age of seventy-five years, having been active members for ten or more years. Members who have been in active practice and who have become wholly or partially incapacitated by illness or accident shall also be eligible and entitled by vote of the Society to be classed as Honorary members. They shall be exempt from payment of dues and entitled to all the privileges of membership.

On vote this proposed change was tabled in accordance with Chapter XV of the By-Laws.

Dr. Daniel Morton reported that Dr. W. D. Webb, Denver, Colorado, a member in good standing, has been incapacitated for some time on account of ill health, and moved that he be elected an Honorary member for such time as the incapacity exists or until he regains his health. The motion was seconded and unanimously carried.

Dr. H. DeLamater announced that the St. Joseph Board of Education hereafter will require a physical examination by a competent physician of all pupils taking gymnasium work in the public schools, and desires the cooperation of the members of the Society.

Dr. Daniel Morton moved that the matter be referred to the committee on economics with the request that they report at the next meeting and suggest a proper fee for the examinations.

Dr. Leroi Beck suggested that resolutions of respect on the death of Dr. James W. Heddens, Pasadena, California, be drafted and a copy sent to Mrs.

Heddens. Dr. Heddens was for many years a highly respected and learned member of our Society.

On motion of Dr. W. T. Elam, seconded and carried, the president appointed the following members as a committee on resolutions: Drs. Jacob Geiger, W. T. Elam and C. H. Wallace, Sr., of St. Joseph.

Dr. J. T. Stamey moved that the president appoint a committee to confer with the county court and urge the court to assist the Welfare Board by contributing in every possible way to its support. The motion was seconded and carried. The following committee was appointed: Drs. Floyd H. Spencer, Leroi Beck and W. T. Elam, of St. Joseph.

Dr. H. DeLamater moved that a banquet be served at the next meeting on January 20, each member to be assessed for the cost, and that one or two out-of-town speakers be invited.

The motion was seconded and carried and the matter referred to the program committee.

EMMETT F. COOK, M.D., Secretary.

CASS COUNTY MEDICAL SOCIETY

The December meeting of the Cass County Medical Society was held at Harrisonville, Thursday, the 10th. The president, Dr. M. P. Overholser, Harrisonville, presided.

A paper on "A Few Facts of Physiology and Pathology of the Circulatory System" was read by Dr. Overholser.

Dr. B. O. Hartwell, Drexel, addressed the members on the subject of "Typhoid Fever."

Following the scientific program a business meeting was held and the following officers were elected for 1932: President, Dr. B. O. Hartwell, Drexel; first vice president, Dr. I. N. Parrish, Freeman; second vice president, Dr. William Beckman, Strsburg; secretary, Dr. L. V. Murray, Pleasant Hill (reelected). Board of Censors, Drs. David S. Long, Harrisonville; J. S. Triplett, Harrisonville; H. A. Brierly, Peculiar. Delegate, Dr. B. O. Hartwell, Drexel; alternate delegate, Dr. L. V. Murray, Pleasant Hill. Dr. J. S. Triplett, Harrisonville, was chosen a member of the Auxiliary Committee on Public Policy.

The next meeting of the Society will be held March 8.

L. V. MURRAY, M.D., Secretary.

CLAY COUNTY MEDICAL SOCIETY

The Clay County Medical Society met in Liberty, December 17, 1931, at 8 p. m., and a splendid turkey dinner preceded the evening's work. Twenty members and their wives participated. The Liberty members always provide fine entertainment during the Christmas season.

The Woman's Auxiliary held their regular meeting in the parlors of The Party Place where the scientific meeting convened.

The principal speaker of the evening was Dr. T. G. Orr, of Kansas City. The doctor took post-operative conditions and adynamic states for the basis; those cases lacking chlorides—hypochloremia. He reported cases wherein the systolic blood pressure was so low as to be hardly demonstrable, with cardiac weakness, thinning of visceral walls, tympanites, no peristalsis, and, indeed, with a low-grade circumscribed peritonitis. The administered remedy was intravenous solutions of sodium chloride, of from 2 to 10 per cent. I have not space here to elaborate, but members said it was the most practical and worth-while paper they had listened to during their membership in the Society. Everyone

present discussed the paper and commended it freely.

The annual election of officers was held and resulted in the following being elected: President, Dr. S. D. Henry, Excelsior Springs; vice president, Dr. R. E. Sevier, Liberty; secretary-treasurer, Dr. J. J. Gaines, Excelsior Springs (reelected); delegate, Dr. W. C. Hamilton, Kearney; alternate delegate, Dr. F. H. Matthews, Liberty. Censor, Dr. F. H. Matthews, Liberty (term expires, 1934). The other members of the board are Dr. J. H. Rothwell, Liberty (term expires, 1933); Dr. J. E. Baird, Excelsior Springs (term expires, 1932).

As it lacks a few moments of being the end of the year we have a few members who have not yet paid dues for 1931. Otherwise, we are a healthy organization.

J. J. GAINES, M.D., Secretary.

FIVE-COUNTY MEDICAL GROUP

The Five-County Medical Group of Southeast Missouri, consisting of Butler, Dunklin, New Madrid, Pemiscot and Stoddard Counties, met December 8, 1931, at Caruthersville. The Pemiscot County Society acted as host. Our guests were Drs. J. R. Caulk and H. H. Kramolowsky, of St. Louis. The following members attended: Drs. Paul Baldwin and T. J. Rigdon, of Kennett; Homer Beall, S. E. Mitchell and J. D. Van Cleve, of Malden; J. Lee Harwell and F. L. Kneibert, of Poplar Bluff; H. T. O'Kelley, Portageville; J. W. Johnson and J. W. Rhodes, of Hayti; S. T. Smith, Holcomb; J. B. Luten and J. R. Pinion, of Caruthersville; L. E. Cooper, Coutre. Visitors: Drs. J. H. Cochran and O. L. Seabaugh, of Cape Girardeau; W. L. Digges, New Madrid; C. D. Harris, Morley; A. H. Marshall, Charleston; F. L. Husband, C. R. Wade, J. R. Bullington, C. W. Brown and A. R. Conrad, Caruthersville; Claude McRaven, Marston.

A splendid luncheon was served in the basement of the Methodist Church by the ladies. Immediately following the luncheon the meeting was turned over to our guest speakers, Drs. Caulk and Kramolowsky. This program was sponsored by the Postgraduate Committee of the State Medical Association.

Dr. Caulk gave a most instructive lecture in his forceful and courageous manner. With the aid of lantern slides he illustrated prostatic conditions, particularly those of the obstructive type, that conveyed to us a readily understandable picture of how the bars cause urine retention. His punch operation was splendidly demonstrated by motion pictures which made his didactic description very clear and showed the advantages of the punch operation over the usual operation for prostatectomy. He prophesied that time and experience would eventually perfect the punch operation until it would become the method of choice in the majority of cases, particularly in old men. Similar bar-like obstructions were illustrated that cause retention of urine in women and children. We were convinced that this was work of high merit that will make conditions in the future amenable to treatment by the general practitioner with little risk and prolong the life of the aged and free them from the suffering that is now all too common.

Dr. Kramolowsky gave an illustrated lecture on "The Diagnosis of Genito-Urinary Affections." The motion pictures were not only remarkably instructive but marvelous in the ingenuity displayed in "shooting" the exact picture needed and correlating it with the oral description of the work. The routine

of an examination was shown in its every detail from the simple two-glass urine test to the pyelogram of affected kidneys. Never has such an instructive and interesting piece of work come before this Society. Illustrated lectures from time to time will aid the Five-County Medical Group to carry out its purpose and intention far beyond expectations to keep the profession abreast of the times and unify the practitioners to a degree that will make for future efficiency in ourselves with resultant benefits to our patients.

JOHN D. VAN CLEVE, M.D., Secretary.

FRANKLIN COUNTY MEDICAL SOCIETY

The Franklin County Medical Society recently elected the following officers for 1932: President, Dr. James P. Dunigan, Sullivan; vice president, Dr. Walter P. Mattox, Sullivan; secretary-treasurer, Dr. H. A. May, Washington (reelected); delegate to State meeting, Dr. H. A. May, Washington; alternate delegate, Dr. B. E. Mankopf, Washington.

H. A. MAY, M.D., Secretary.

GRUNDY COUNTY MEDICAL SOCIETY

The annual election of officers for the Grundy County Medical Society was held December 1, and the following were elected: President, Dr. W. A. Fuson, Trenton; vice president, Dr. W. H. Winningham, Trenton; secretary-treasurer, Dr. E. A. Duffy, Trenton (reelected); delegate, Dr. U. C. Weston, Galt; alternate delegate, Dr. G. W. Belshe, Trenton. Censors, Dr. W. H. Winningham, Trenton (term expires, 1934); Dr. H. C. Kimberlin, Trenton (term expires, 1933.) Dr. W. A. Fuson, Trenton, holds over for one year.

Dr. H. O. Witten, formerly of New York City, has been transferred to the Veteran's Administration Home, Augusta, Maine.

An interesting paper on "Sinusitis" was read by Dr. H. C. Kimberlin, Trenton.

The board of censors reported favorably on the application of Dr. R. J. Gay, Laredo, and he was elected to membership.

E. A. DUFFY, M.D., Secretary.

JASPER COUNTY MEDICAL SOCIETY

The Jasper County Medical Society met on December 15, 1931, at Joplin, with twenty members and three visitors present. The minutes of the previous meeting were read and approved. The guest of the Society was Dr. John H. Ogilvie, Kansas City.

The secretary read a letter from Dr. Lawrence D. Thompson, St. Louis, accepting our invitation to address us on January 5.

Dr. Ogilvie read an instructive paper on "Carcinoma of the Breast." He emphasized the fact that there are no cardinal symptoms and only two signs of carcinoma of the breast, namely, pain and skin fixation, and that not even skin fixation is present in sarcoma. He illustrated his subject with a number of lantern slides and stated that 78 per cent of his group showed good results seven years after operation.

Dr. Ogilvie's paper was fully discussed.

O. T. BLANKE, M.D., Secretary.

JEFFERSON COUNTY MEDICAL SOCIETY

The regular meeting of the Jefferson County Medical Society was held at Festus, December 1, 1931. President N. W. Jarvis, Festus, called the meeting to order. The guests of the Society were

Drs. J. D. Hayward and F. L. Morse, of St. Louis. Dr. Hayward read an interesting paper on "The Acute Abdomen."

"Fractures" was the subject of an address by Dr. Morse.

The members enjoyed these talks immensely and appreciated the presence of the St. Louis physicians.

Dr. J. J. Commerford, Crystal City, moved that the present officers be reelected to serve during the ensuing year. The motion was seconded by Dr. David Ford, DeSoto, and carried. The officers are: President, Dr. N. W. Jarvis, Festus; vice president, Dr. John Rutledge, Crystal City; secretary, Dr. Charles E. Fallet, DeSoto. Dr. Fallet was elected delegate to the State Meeting at Jefferson City, and Dr. Rutledge as his alternate.

CHARLES E. FALLET, M.D., Secretary.

JOHNSON COUNTY MEDICAL SOCIETY

The Johnson County Medical Society met in regular session December 16, 1931, at Warrensburg, with Dr. John A. Powers, Warrensburg, in the chair. The guest of the Society was Dr. Richard L. Sutton, of Kansas City.

Officers elected for 1932 are: President, Dr. Ralph F. McKinney, Warrensburg; vice president, Dr. Harry F. Parker, Warrensburg; secretary-treasurer, Dr. O. B. Hall, Warrensburg. Dr. J. A. Powers, Warrensburg, was elected censor for three years. The other members of the board of censors are Dr. E. Y. Pare, Leeton (term expires, 1933); Dr. Harry F. Parker, Warrensburg (term expires, 1932). Dr. William G. Thompson, Holden, is the delegate to the Jefferson City meeting.

The members together with Dr. Sutton drove to Knobnoster, twelve miles east of Warrensburg, and were served a delightful six o'clock dinner at the Elliott Hotel. Members present were: Drs. James I. Anderson, John T. Anderson, T. J. Draper, O. B. Hall, W. E. Johnson, R. F. McKinney, H. F. Parker, William R. Patterson, John A. Powers and L. J. Schofield, of Warrensburg; Edward Andruss, Holden; J. E. Porter, Knobnoster.

The party returned to Warrensburg and at 8 o'clock in the auditorium of the Central Missouri State Teachers College Dr. Sutton gave his lecture on "The Long Trek," illustrated with motion pictures. The auditorium was filled to capacity with students, faculty members and citizens of Warrensburg, and needless to say they greatly enjoyed the lecture. It was a most vivid picture of the strenuous and picturesque side of human and wild animal life.

Immediately following the lecture the physicians enjoyed a "smoker" and refreshments at the Warrensburg Clinic. Drs. A. J. Chalkley and C. T. Ryland, of Lexington; W. E. Martin, Odessa, and J. R. Hampton, Clinton, were welcome visitors.

After the smoker the doctors joined their wives at the home of Dr. and Mrs. W. R. Patterson where the Johnson County Auxiliary had been entertained during the evening. The Patterson home was prettily decorated in keeping with the Christmas season. Refreshments were served to about forty guests. Mrs. Patterson was assisted by Mrs. H. F. Parker, Mrs. R. F. McKinney, and Mrs. J. L. Essig.

Everyone had a splendid time and we think this an appropriate ending to the social and educational efforts of the Society for 1931.

O. B. HALL, M.D., Secretary.

LAFAYETTE COUNTY MEDICAL SOCIETY

The Lafayette County Medical Society held their annual meeting and banquet at Higginsville, Decem-

ber 29, 1931. The Woman's Auxiliary were guests of the Society.

At a table beautifully decorated in keeping with the Christmas season were seated the following: Dr. and Mrs. E. L. Johnston and Dr. Edmund Lissack, of Concordia; Dr. and Mrs. C. T. Ryland, Dr. and Mrs. J. Q. Cope, Dr. and Mrs. A. J. Chalkley, Dr. and Mrs. T. R. Butler, and Dr. J. S. Cope, of Lexington; Dr. and Mrs. J. W. Horner, Alma; Dr. and Mrs. Lewis Carthrac, Jr., Corder; Dr. and Mrs. W. E. Martin, Dr. and Mrs. R. C. Schooley, Mrs. Lightner and Mrs. Barclay, of Odessa; Dr. and Mrs. W. E. Koppenbrink, Dr. and Mrs. D. C. Davis, Dr. and Mrs. W. C. Webb, Dr. and Mrs. W. A. Braecklein, Dr. and Mrs. J. DeVoine Guyot, and Dr. and Mrs. B. F. Bowline, of Higginsville.

Following the turkey repast the ladies of the Auxiliary held their meeting in the lobby of the hotel.

The Society elected the following officers for 1932: President, Dr. T. R. Butler, Lexington; secretary-treasurer, Dr. W. E. Koppenbrink, Higginsville (reelected); censor, Dr. J. W. Horner, Alma; reporter, Dr. J. DeVoine Guyot, Higginsville.

It was moved, seconded and carried, that the members of the Johnston County Medical Society be invited to attend our meetings and that two programs be arranged especially for the Johnston County members.

The next meeting will be held in Lexington.

J. DEVOINE GUYOT, M.D., Reporter.

NODAWAY COUNTY MEDICAL SOCIETY

The Nodaway County Medical Society met in regular session Friday evening, December 11, 1931, in the first-floor lecture room of the Sisters of St. Francis Hospital, Maryville. The meeting was called to order by the President, Dr. K. C. Cummins, Maryville, at 7:45 p. m. with the following members present: Drs. Chas. T. Bell, K. C. Cummins, L. E. Dean, C. V. Martin, R. C. Person, and Wm. Wallis, Jr., of Maryville; Dr. Chas. D. Humbert, Barnard. Drs. Hiram Day, Maryville, George H. Curfman, Salida, Colorado, Forrest Martin, Cambridge, Massachusetts, and Albert S. Welch, Kansas City, several Sisters and the entire training class from the hospital staff were present as invited guests. The minutes of the regular meeting of November 13 were read and approved.

The Secretary read the State Association's communications concerning the late attempts at incorporating a substandard medical college in Missouri.

The resignation of Dr. E. L. Morgan, Graham, from membership in the Society, as of December 31 was presented in writing.

The annual report of the secretary showed that during 1931 the Society has held eight regular meetings and one called session, at which fifteen papers were presented by out-of-town essayists. The minutes of all meetings have been published in full in THE JOURNAL. The net membership is now twenty-six. During the year one member removed from the county, one resigned, and one member was reinstated. There were no new elections to membership. Of the twenty-six active members, twenty are paid in full to date, six are in arrears for one year, and three members are delinquent for two years.

The annual report of the treasurer showed a balance on hand December 11, 1931, of only \$1.32, but with no outstanding obligations.

Dr. William Wallis, Jr., moved that the reports of the secretary and treasurer be accepted. The motion was seconded by Dr. R. C. Person and carried.

Dr. C. V. Martin moved that the Society discontinue the monthly "feeds" which have depleted the treasury, and that the Secretary continue to publish announcement cards in the form in which they have been issued for the past four years. The motion was seconded by Dr. C. T. Bell and carried.

The meeting then proceeded to the election of officers for 1932. Dr. L. E. Dean nominated Dr. W. M. Hindman, Burlington Junction, as a candidate for president. Dr. C. T. Bell moved that the nominations be closed and that Dr. Hindman be elected president by acclamation. The motion was seconded by Dr. C. V. Martin and carried.

Dr. C. V. Martin nominated Dr. R. C. Person, Maryville, for the office of vice president. Dr. Wm. Wallis, Jr., moved that the nominations be closed and that Dr. Person be elected vice president by acclamation. The motion was seconded by Dr. C. T. Bell and carried.

Dr. Wm. Wallis, Jr., nominated Dr. Charles D. Humbert, Barnard, to succeed himself as secretary-treasurer. Dr. Chas. T. Bell moved that the nominations be closed and that Dr. Humbert be elected secretary-treasurer by acclamation. The motion was seconded by Dr. L. E. Dean and carried.

Dr. R. C. Person nominated Dr. Chas. D. Humbert, Barnard, to succeed himself in the office of delegate to the State meeting. Dr. Wm. M. Wallis, Jr., moved that the nominations be closed and that Dr. Humbert be elected delegate by acclamation. The motion was seconded by Dr. C. T. Bell and carried.

Dr. C. V. Martin nominated Dr. L. E. Dean, Maryville, as alternate delegate. Dr. C. T. Bell moved that the nominations be closed and that Dr. Dean be elected alternate delegate by acclamation. The motion was seconded by Dr. R. C. Person and carried.

The meeting was then turned over to Dr. Albert S. Welch, of Kansas City, who had come as lecturer through the courtesy of the Postgraduate Committee of the State Association. Dr. Welch gave a paper on "The Clinical Interpretation of Modern Laboratory Data," and based his essay on his recently completed textbook of this title, which is now being published by P. Blakiston's Son and Co., Philadelphia. Dr. Welch's remarks were received with much interest. Numerous questions on related topics were asked and graciously answered by the speaker. These questions became so numerous that the meeting assumed a veritable "round-table" aspect.

The meeting adjourned at 10:05 p. m.

CHAS. D. HUMBERT, M.D., Secretary.

PETTIS COUNTY MEDICAL SOCIETY

At a recent meeting of the Pettis County Medical Society the following officers were elected to serve during the ensuing year: President, Dr. A. J. Campbell, Sedalia; vice president, Dr. C. B. Trader, Sedalia; secretary, Dr. W. G. Jones, Sedalia; treasurer, Dr. A. E. Monroe, Sedalia (reelected); delegate, Dr. A. E. Monroe, Sedalia; alternate, Dr. J. W. Boger, Sedalia. Dr. J. B. Carlisle, Sedalia, was elected to membership in the board of censors for three years. The other members of the board are Dr. C. B. Trader, Sedalia (term expires, 1933); Dr. J. G. Love, Sedalia (term expires, 1932). Program committee: Drs. W. T. Bishop, D. P. Dyer and C. B. Trader, of Sedalia.

So ends the year 1931. We have had some splendid meetings and a number of out-of-town speakers, including Dr. R. M. Balyeat, of the Balyeat Hay-Fever Clinic at Oklahoma City.

C. B. TRADER, M.D., Secretary.

PIKE COUNTY MEDICAL SOCIETY

The regular meeting of the Pike County Medical Society was held at the Pike County Country Club, Louisiana, December 8, 1931, at 8:30 p. m. Dr. E. M. Bartlett, Clarksville, president, presided. A turkey dinner preceded the session. Dr. J. W. Crewdson, mayor of Louisiana, welcomed the guests who were Dr. J. Frank Harrison, Mexico, President of the State Medical Association, Dr. A. R. McComas, Surgeon, Chairman of the Council, Dr. E. Lee Dorsett, St. Louis, and Dr. F. B. Dorsey, Jr., Keokuk, Iowa.

At a short business meeting the following officers were elected to serve during the ensuing year: President: Dr. E. A. Cunningham, Louisiana; vice president, Dr. O. W. Snodgrass, Frankford; secretary-treasurer, Dr. R. L. Andrae, Louisiana. The delegate and alternate to the State Meeting will be appointed later by the president.

Dr. J. Frank Harrison addressed the Society on "The Relationship of Organized Medicine to the Public."

Dr. Harrison expressed his conviction that scientific progress in medicine had far outstripped public contact and teaching and said he believed it was now time to bring the part of the profession's obligation up-to-date. In part he said, "It has been obvious for some time that our societies should get into closer contact with the public. This may be done through lay organizations such as various welfare, parent-teacher and other organizations that concern themselves with public health. We have shown interest in public health by educational endeavors in reference to disease prevention. We should do more toward the guidance and direction of the forces that we as a profession have set in motion. We, as individuals, as well as societies, should never obstruct any movement of any legitimate organization that promises aid toward the alleviation of suffering or eradication of disease. It seems that it is essential that the public should be impressed with the fact that the chief object of the county medical society, the State Medical Association and the American Medical Association is 'to promote the science and art of medicine and the betterment of public health.' It should follow that the rational service of the professional and lay organizations should deal with and facilitate the application of accumulated medical knowledge to the needs of humanity. This, of course, can only be done through the intelligent cooperation of one with the other, organized medicine and the public. This will require forbearance, patience and much labor on the part of our organizations, as well as, us as individual physicians."

Dr. A. R. McComas spoke on the principles and purposes of the Andrew Walker McAlester Memorial Foundation.

A paper on "Procedures in Breech Presentation and Delivery" illustrated with lantern slides, was read by Dr. E. Lee Dorsett.

Dr. Dorsett's paper was discussed by Drs. F. B. Dorsey, Jr. and T. Guy Hetherlin.

The meeting adjourned at 10:30 p. m.

R. L. ANDRAE, M.D., Secretary.

PLATTE COUNTY MEDICAL SOCIETY

The Platte County Medical Society recently elected officers for the ensuing year, as follows: President, Dr. Robert P. C. Wilson, Platte City; secretary-treasurer, Dr. Spence Redman, Platte City (re-

elected); delegate, Dr. Henry M. Clark, Platte City; alternate delegate, Dr. Lewis C. Calvert, Weston.

SPENCE REDMAN, M.D., Secretary.

RANDOLPH-MONROE COUNTY MEDICAL SOCIETY

A public meeting of the Randolph-Monroe County Medical Society was held December 8, 1931, in the Moberly High School auditorium, with Dr. Richard L. Sutton, Kansas City, as the guest speaker. The school children and the various study clubs of Moberly had been invited, and there were approximately four hundred in attendance. Dr. Sutton gave his famous lecture, "The Long Trek."

The meeting was preceded by a banquet at the Merchants Hotel at which the following members and guests were seated: Dr. R. L. Sutton, Kansas City; Dr. and Mrs. J. F. Flynt and Dr. M. C. McMurry, of Paris; Dr. and Mrs. F. L. Harms and Dr. G. W. Hawkins, of Salisbury; Dr. and Mrs. C. F. Burkhalter and daughter and Dr. J. W. Winn, of Higbee; Dr. and Mrs. D. A. Barnhart, of Huntsville; Dr. W. O. Hawkinson, Roanoke; Dr. and Mrs. O. O. Ash, Dr. P. C. Davis and family, Dr. and Mrs. C. H. Dixon, Dr. and Mrs. T. S. Fleming and daughter, Dr. and Mrs. L. E. Huber, Dr. M. E. Kaiser, Dr. and Mrs. Jesse Maddox, Dr. and Mrs. F. L. McCormick, Dr. O. K. Megee, Dr. and Mrs. L. O. Nickell and daughter, Dr. and Mrs. Ed. Smith, and Dr. and Mrs. C. C. Smith, of Moberly.

This was the regular time for the election of officers but because of the lateness of the hour it was decided to call a special meeting to transact this business.

This meeting was one of the most interesting and complete we have ever had and Dr. Sutton deserves much credit for making it a real success.

T. S. FLEMING, M.D., Secretary.

STE. GENEVIEVE COUNTY MEDICAL SOCIETY

The Ste. Genevieve County Medical Society held its annual meeting at Ste. Genevieve, December 9, 1931. The president, Dr. John A. Wilkins, St. Marys, called the meeting to order with the following members present: Drs. R. C. Lanning, R. W. Lanning, G. M. Rutledge and A. E. Sexauer, of Ste. Genevieve; Oscar A. Carron and John A. Wilkins, of St. Marys. The minutes of the previous meeting were read and approved.

Officers elected for the ensuing year are: President, Dr. J. A. Wilkins, St. Marys (reelected); vice president, Dr. G. M. Rutledge, Ste. Genevieve (reelected); secretary-treasurer, Dr. R. W. Lanning, Ste. Genevieve (reelected); delegate, Dr. A. E. Sexauer, Ste. Genevieve. Dr. Oscar A. Carron, St. Marys, was elected to membership in the board of censors for three years to serve with Drs. A. E. Sexauer and R. C. Lanning.

The president appointed Drs. C. J. Clapsaddle, A. E. Sexauer and R. C. Lanning as a Committee on Public Health and Legislation.

The treasurer's report was read and approved, showing a balance on hand of \$34.78.

R. W. LANNING, M.D., Secretary.

WOMAN'S AUXILIARY

OFFICERS 1931-32

President, Mrs. U. J. Busiek, Springfield.

President-Elect, Mrs. David S. Long, Harrisonville.

1st Vice President, Mrs. Ralph Holbrook, Kansas City.

2nd Vice President, Mrs. R. S. Kieffer, St. Louis.

3rd Vice President, Mrs. H. M. Grace, Chillicothe.

4th Vice President, Mrs. W. T. Martin, Albany.

Recording Secretary, Mrs. J. A. Chenoweth, Joplin.

Treasurer, Mrs. L. S. James, Blackburn.

Auditor, Mrs. J. J. Gaines, Excelsior Springs.

NOTES

Dr. Arthur J. Cramp, Chicago, director of the Bureau of Investigation of the American Medical Association, will address the Woman's Auxiliary to the Jackson County Medical Society in Kansas City on February 5. He will speak on the subject of cosmetics.

WOMAN'S AUXILIARY TO THE MISSOURI STATE MEDICAL ASSOCIATION

Seventh Annual Meeting, Joplin, May 12-13, 1931

The seventh annual meeting of the Woman's Auxiliary to the Missouri State Medical Association was called to order by the President, Mrs. A. W. McAlester, Kansas City, in the Connor Hotel, Joplin, May 12, 1931.

The reading of the minutes of the last general meeting was dispensed with. The minutes of the 1930-31 Executive Board meeting held in Hannibal were read and approved.

The following committee chairmen gave reports: Mrs. C. M. Sneed, Columbia, Committee on Organization; Mrs. M. P. Ravenel, Columbia, Committee on Legislation; Mrs. W. T. Martin, Albany, Committee on Hygeia; Mrs. M. P. Overholser, Harrisonville, Committee on Constitution; Mrs. M. P. Ravenel, Columbia, Committee on Quota, and Mrs. U. J. Busiek, Springfield, Committee on Scholarship Fund. The Secretary read the report of Mrs. S. P. Howard on the Committee on Education. Mrs. Ralph Holbrook, Kansas City, Corresponding Secretary, read her report.

Mrs. U. J. Busiek, Springfield, moved that the Scholarship Fund be discontinued. Seconded and carried.

The President appointed the following Nominating Committee: Mrs. W. M. Bickford, Marshall, Chairman; Mrs. U. J. Busiek, Springfield; Mrs. J. J. Gaines, Excelsior Springs; Mrs. R. C. Haynes, Marshall; Mrs. T. B. Todd, Nevada; Mrs. H. C. Powers, Joplin, and Mrs. G. N. Seidlitz, St. Louis.

LUNCHEON, TUESDAY NOON, MAY 12

The Woman's Auxiliary and guests assembled in the banquet room of the Connor Hotel at 12:30 where luncheon was served. Mrs. R. M. James, Joplin, presided. The past presidents were guests of honor and each in turn was introduced. The luncheon speakers were Dr. Morris Fishbein, Chicago, editor of the *Journal of the American Medical Association*; Dr. W. C. Gayler, St. Louis, President of the Missouri State Medical Association; Dr. J. Frank Harrison, Mexico, President-Elect of the Missouri State Medical Association; Dr. L. C. Chenoweth, Joplin, President of the Jasper County Medical Society, and Dr. Jabez N. Jackson, Kansas City, past president of the American Medical Association.

REPORTS OF COUNTY PRESIDENTS

Reports of the work conducted during the year by the county auxiliaries were read at a meeting Tuesday afternoon, May 12, by Mrs. C. H. Sud-darth, Excelsior Springs, Clay County; Mrs. E. D. Baskett, Columbia, Boone County; Mrs. H. W. Carle, St. Joseph, Buchanan County; Mrs. S. F. Freeman, Springfield, Greene County; Mrs. R. L. Sutton, Kansas City, Jackson County; Mrs. C. C. Cummings, Joplin, Jasper County; Mrs. H. F. Parker, Warrensburg, Johnson County; Mrs. E. L. Johnston, Concordia, Lafayette County; Mrs. T. F. Fleming, Moberly, Randolph-Monroe County, and Mrs. L. S. James, Blackburn, Saline County.

MINUTES OF THE GENERAL MEETING

Connor Hotel, Wednesday, May 13, 1931, 9:00 a. m.

The meeting was called to order by Mrs. W. A. McAlester, Kansas City, President, who called upon Mrs. L. S. James, Blackburn, for the invocation.

The address of welcome was delivered by Mrs. R. M. James, Joplin.

The report of the Nominating Committee was read by Mrs. W. M. Bickford, Marshall.

Mrs. Bickford moved that the nominating ballot be made the election ballot. Seconded and carried.

Luncheon, Wednesday Noon, May 13

A delightful luncheon was served at the Joplin Woman's Club at 12:30 p. m. with Mrs. A. W. McAlester, Kansas City, presiding.

Mrs. U. J. Busiek, Springfield, the newly elected president, was introduced and spoke on the ideals and the future of the Auxiliary, especially in connection with the work during her administration. Mrs. Busiek introduced the officers and directors who will serve with her during 1931 and 1932.

At 3:30 p. m. all visiting members were guests of the hostess Auxiliary on an automobile drive.

Open Dinner, Wednesday Evening, May 13

At 7 p. m. Wednesday evening an open dinner was given at the Connor Hotel with Mrs. U. J. Busiek as toastmistress. Mrs. A. B. McGlothlan, St. Joseph, President-Elect of the Woman's Auxiliary to the American Medical Association, was the dinner speaker and brought greetings from the National Auxiliary, and in a most entertaining way gave a tentative program of the national meeting to be held in Philadelphia.

At the close of the dinner, music, dancing and a farcical play, "Doctors' Wives and Doctors' Lives," written and arranged by Mrs. Wilbur Baker, Kansas City, furnished entertainment.

MEETING OF THE EXECUTIVE BOARD

The new Executive Board met in the parlor of the Connor Hotel, Joplin, at 10:30 a. m., May 13. The President, Mrs. U. J. Busiek, Springfield, presided. The following members were present: Mrs. M. P. Overholser, Harrisonville; Mrs. A. B. McGlothlan, St. Joseph; Mrs. W. M. Bickford, Marshall; Mrs. R. C. Haynes, Marshall; Mrs. W. T. Martin, Albany; Mrs. Ralph Holbrook, Kansas City; Mrs. G. N. Seidlitz, St. Louis; Mrs. J. J. Gaines, Excelsior Springs; Mrs. C. H. Suddarth, Excelsior Springs; Mrs. R. M. James, Joplin; Mrs. H. W. Carle, St. Joseph, and Mrs. G. W. Ruddell, St. Louis.

In the absence of Mrs. J. A. Chenoweth, Joplin, the Corresponding Secretary, the President appointed Mrs. G. W. Ruddell, St. Louis, as Secretary pro tem.

The report of the Budget Committee was given by

Mrs. R. C. Haynes. On motion of Mrs. G. N. Seidlitz, seconded by Mrs. M. P. Overholser, and carried, the President was allowed \$85 for expenses. The remaining items were referred for final decision to the mid-year executive meeting.

Mrs. A. W. McAlester, Kansas City, President, delivered the Presidential Address, as follows:

Address of the President

I extend to you my most cordial greetings. I feel that the Woman's Auxiliary of Missouri is more honored than the Auxiliary of any other state. A year ago we had Mrs. G. H. Hoxie, Kansas City, as national president, and this year we are to be honored by having Mrs. A. B. McGlothlan, St. Joseph, as national president. I have so wanted the Missouri Auxiliary to be worthy of this privilege and honor.

My first thought in preparing this report was thankfulness and gratitude, thanks and gratitude to each one who has helped to make the Auxiliary a success. Notwithstanding some disappointments and a few discouragements, I feel that we have had a full and successful year. I feel that the ties of friendship that have permeated our organization have been strengthened. In going over the year's activities I find that the success of the work is due to my fine and efficient officers and chairmen.

We have three new committees this year. At the request of the National Auxiliary, a press and publicity chairman was appointed, Mrs. W. M. Bickford, Marshall, being chosen for this work. Through this committee we hope to keep alive the interest of our members. Mrs. Bickford's reports have appeared each month in the *Missouri State Medical Journal* and the *American Medical Association Bulletin*. I hope you have read about yourselves in these publications for I am sure you would be very proud of Missouri.

Mrs. A. Haines Lippincott, Camden, N. J., National Chairman of Public Relations, wrote to me and requested that we appoint a State Chairman of Public Relations for Missouri. In her letter she said: "I feel the most important thing we can do is to carry out the recommendations of Mrs. Overholser who did a magnificent piece of work last year." It gave me much pleasure to write Mrs. Lippincott that Mrs. Overholser had consented to be Chairman of Public Relations. The Courtesy Committee was formed to develop a broader friendliness and goodwill among our members. Mrs. J. DeVoine Guyot, Higginsville, is chairman.

I have enjoyed hearing from each of you. Please next year answer the letters of your President as promptly as you can and keep her in touch with the activities of your Auxiliary.

During the Clinic Week in Kansas City last October it was my pleasure to have as my guests for luncheon a number of the State Auxiliary officers and members. I regret that more of you could not have been with me. I am looking forward to having you again next year. The Jackson County Auxiliary invites you to their Annual Tea next October.

I have had many delightful invitations to visit county auxiliaries during the year. I was most beautifully entertained at Harrisonville by the Cass County Medical Society and at Butler by the Vernon-Cedar and Bates Counties Auxiliaries. I visited the Greene County Auxiliary and they gave me a very lovely luncheon. I was also a guest of the Jasper County Auxiliary for luncheon and ever since I have been looking forward with much pleasure to coming to Joplin this week. I enjoyed an afternoon with the Lafayette County Auxiliary. One of their members gave a most brilliant book review and delicious tea was served. I spent an entire week with the St. Louis City Auxiliary. I attended two luncheons, a business meeting, a book review, a bridge lesson, had tea with Mrs. Talbott, went to a dinner given by the members of the Auxiliary and attended by the doctors and their wives. About 400 were present.

Many of the auxiliaries hold their meetings at the same time the county medical society meetings are held. I have been told that the auxiliary increases the attendance at the medical meetings when held on the same day, women urging their husbands to go so they may attend the auxiliary meeting. From each of the county auxiliaries I visited I returned with enthusiasm. I wish that each auxiliary member could have had the same privileges and pleasures which have been mine. I regret that I could not accept invitations last week to visit Cole County, Boone County, Saline County and Buchanan County.

I know you will forgive me if I speak of my own beloved Auxiliary, Jackson County Auxiliary. I wish to express to them my appreciation in knowing that my Auxiliary was back of me. It gave me a feeling of stability and strength which carried me through many emergencies.

I consider it a rare privilege to belong to the Woman's Auxiliary to the Medical Association. Many women can belong to other organizations but only the wife or daughter of a doctor can belong to this Auxiliary, and why all doc-

tors' wives do not avail themselves of this opportunity I cannot understand. I am grateful to you for the part you have allowed me to have in helping to build an organization that works with one of the greatest professions on earth, the medical profession. I am also grateful for the opportunity to have worked with you. I feel that my association and contact with you has enriched my life. Again I want to thank each and every one for the fine spirit and cooperation that has prevailed.

MRS. A. W. McALESTER, President.

The report of the Corresponding Secretary was read by Mrs. A. R. Kieffer, St. Louis.

REPORT OF THE RECORDING SECRETARY

Following the convention in 1930 the minutes of the state meeting were prepared and a copy filed in the Secretary's book, one presented to the retiring President, one for the incoming President and one for the State Medical Journal. The latter was sent to Dr. Goodwin in June for publication in the August JOURNAL but owing to lack of space the minutes did not appear until the December issue.

A list of the new officers was sent to all members of the Board.

It has been a pleasure to serve you in this capacity. It has been my privilege to serve under every president that Missouri has had. No more splendid women have ever brought honor to our fair State. It has been fine to watch the growth and development of our organization. It has passed through the period of pioneering and now stands on its record, holding a place of honor and respect among the womanhood of Missouri.

May I take this opportunity to express my love and devotion to our retiring president, Mrs. McAlester, and to pledge my loyalty and support to our incoming president, Mrs. Busiek.

MRS. DAVID S. LONG, Recording Secretary.

The report of the Treasurer was read by Mrs. R. C. Haynes, Marshall, as follows:

REPORT OF TREASURER

Receipts	\$536.95
Expenditures	304.71
Balance, May 13, 1931.....	\$232.24

MRS. R. C. HAYNES, Treasurer.

Mrs. C. T. Ryland, Lexington, Auditor, reported that the books were efficiently and perfectly kept. On motion the report of the Treasurer was adopted.

Mrs. C. M. Sneed, Columbia, First Vice President and Chairman of Organization, read her report, as follows:

REPORT OF ORGANIZATION COMMITTEE

Your Chairman of Organization regrets that little seems to have been accomplished in extension of the Woman's Auxiliary to the Missouri State Medical Association. Mrs. David S. Long, Harrisonville, while on other business in Livingston County and acting at the request of Mrs. A. W. McAlester and the Committee on Organization, took up the question of organization in Livingston County. The wives of the members of the Livingston County Medical Society responded to Mrs. Long's approaches and organized a Woman's Auxiliary to the Livingston County Medical Society.

Efforts were made through correspondence to establish auxiliaries in other counties but without success. Your Chairman agrees with her predecessor, Mrs. U. J. Busiek, that the personal contact of a State officer is much more likely to be followed by the organization of a new auxiliary than by any amount of correspondence. I therefore urge that in the future the State officers and the members of the auxiliaries adjacent to unorganized counties make special effort through personal contact to bring about the organization of more county auxiliaries.

MRS. C. M. SNEED, Chairman.

On motion the report was adopted.

The report of the Legislation Committee was read by the Chairman, Mrs. M. P. Ravenel, Columbia, as follows:

REPORT OF LEGISLATION COMMITTEE

In March I received from Mrs. E. L. Whitney, Chairman of Legislation of the Woman's Auxiliary to the American Medical Association, some questionnaires to be distributed

to county presidents, and to be returned by them to Mrs. Whitney. These questionnaires I sent to the twenty-two county presidents. Several letters on this subject were written by me.

MRS. M. P. RAVENEL, Chairman.

On motion the report was adopted.

Mrs. W. T. Martin, Albany, Chairman of Hygeia, read her report, as follows:

REPORT ON HYGEIA

About twenty-five letters have been written and three circular letters have been sent out to the county Hygeia chairmen urging them to take subscriptions and in some way to make money and use this money in Hygeia subscriptions. Your chairman has lost no opportunity in making health talks and trying to promote Hygeia.

MRS. W. T. MARTIN, Chairman.

On motion the report was adopted.

Mrs. S. P. Howard, Jefferson City, Chairman of the Education Committee, read her report, as follows:

REPORT OF THE EDUCATION COMMITTEE

During the last year your Chairman has endeavored to have more use made of the Study Envelopes put out by the State Auxiliary and those sent by the Auxiliary to the American Medical Association. Last October a letter was sent to the president of each auxiliary asking that the lessons be used not only at the auxiliary meetings but in meetings of Parent-Teachers organizations, study clubs, and anywhere that the public might be given the knowledge contained in the letters.

Your Chairman sent to Mrs. Mary McKay of the Department of Public Information a copy of each of the envelope lessons which Mrs. McKay gratefully acknowledged. The lessons are included in its suggested programs for clubs in the Missouri Federation of Women's Clubs.

Upon request, information describing the work of the Auxiliary to the State Medical Association, especially in relation to public health, was sent to Dr. W. W. Johnston, Farmington, Field Agent, United States Public Health Service, to be given student nurses in public health. The lesson envelopes were also sent to Dr. Johnston.

The study envelope, "Common Defects in Children," published by the Education Committee of the Auxiliary to the American Medical Association was sent to each county president and to other organizations desiring them.

These lessons have been recommended by the Department of Health in the Missouri Branch, National Congress of Parents and Teachers, for use on Parent-Teacher programs, and much use has been made of them in our Parent-Teacher organizations.

Many of the county auxiliaries are using the study envelopes. Lafayette County Auxiliary reported quite interesting and helpful programs on the lessons this year. Your Chairman hopes that much correct knowledge has been gained and disseminated through the lessons this past year.

MRS. S. P. HOWARD, Chairman.

It was moved, seconded, and carried that report of Mrs. Howard be adopted.

The report of Committee on Revision of Constitution and By-Laws was read by Mrs. M. P. Overholser, Harrisonville, Chairman, as follows:

REPORT OF COMMITTEE ON REVISION OF CONSTITUTION AND BY-LAWS

Our present constitution appears to be meeting the needs of the auxiliaries with the exception of the inadequacy dealing with the subject of members at large. The Committee recommends the following amendments to the By-Laws:

(a) That Article V be amended by inserting after the words "fifty per cent per capita," the words "and members at large shall pay dues to the State Treasurer of one dollar per person."

(b) That a new Article XI be inserted, stating that "members at large shall receive such bulletins and public information as are issued to county presidents for county organizations."

(c) That the present numbers of Articles XI and XII be changed to Articles XII and XIII, respectively.

This Committee also suggests that the President recommend members at large to the friendly goodwill and association of neighboring auxiliaries.

MRS. M. P. OVERHOLSER, Chairman.

It was moved, seconded, and carried that Mrs. Overholser's report be adopted and that the amendments be voted on separately.

Each amendment was moved, seconded, and carried separately.

Mrs. Overholser moved that she appoint two members, Mrs. U. J. Busiek, Mrs. W. M. Bickford, and herself to confer with the proper officials of the State Medical Association as to just what would be acceptable to most of our members at large.

The motion was seconded and carried.

Mrs. Ralph Holbrook read her report as Corresponding Secretary:

REPORT OF THE CORRESPONDING SECRETARY

The duties of the Corresponding Secretary of the Auxiliary are such that the constant directing of the President is necessary. Allow me, as one who has been in constant contact with Mrs. McAlester, to compliment the Auxiliary in the selection of her for that office.

The activities of this year are as follows:

1. Letters written to presidents of all county organizations for the purpose of obtaining complete lists of members with addresses to revise membership file.

2. Correspondence directed to National officers.

3. Correspondence to State officers.

4. Correspondence regarding the tentative program of the National Auxiliary meeting to the entire Executive Board and members at large.

5. The correspondence necessary to interest the Missouri State Medical JOURNAL and all the medical publications of the state in getting out publicity to interest our members in attending this meeting.

Your Corresponding Secretary had the pleasure of attending, with your President, a number of auxiliary meetings throughout the state. In retiring from this office, I assure you that there are regrets in severing contacts with an organization whose future I can only predict as progressive.

MRS. RALPH W. HOLBROOK, Chairman.

On motion the report was adopted.

The report of Scholarship Quota Committee was read by the Chairman, Mrs. M. P. Ravenel, Columbia, as follows:

REPORT OF SCHOLARSHIP QUOTA COMMITTEE

Our Committee met at the home of the Chairman on Thursday, May 22, 1930.

The list of county auxiliaries which had paid their dues had been sent by Mrs. R. C. Haynes, Treasurer, and was carefully studied. The Henry County Auxiliary had disbanded since the annual meeting at Hannibal, leaving 23 organized counties. Three of these counties had not paid dues, leaving 20 with a paid up membership of 532. Therefore to collect the \$500 for the Scholarship Fund it was necessary to name a quota of ninety-five cents for each member. The response has been splendid and according to the Treasurer's report hereby appended, the last payment completing the sum of \$500 was made on March 12, 1931.

MRS. M. P. RAVENEL, Chairman.

On motion the report was adopted.

Mrs. U. J. Busiek, Springfield, read the report of the Scholarship Fund, as follows:

REPORT OF SCHOLARSHIP FUND

On August 29, 1930, letters were sent to the county auxiliaries urging them to send their scholarship quota as early as possible in order to fulfill our promise of \$500 to Mr. Schmidtke at Washington University, who by his worthiness earned the reward in 1929. Only a few follow-up letters were necessary to complete the gift early in February. Your Chairman takes this opportunity to thank all the auxiliaries for their promptness and generosity. I would like to recommend at this time that a vote be taken as to whether the Scholarship Fund should be continued another year as it has been conducted.

MRS. U. J. BUSIEK, Chairman.

On motion the report was adopted.

Following a lengthy discussion of the Scholarship Fund, it was voted that the Fund be discontinued as it is at present.

Mrs. W. M. Bickford, Marshall, Chairman of Press and Publicity, read the following report:

REPORT OF PRESS AND PUBLICITY CHAIRMAN

The Chairman of Press and Publicity cannot create news notes in the State JOURNAL, therefore it is an office entirely dependent upon the State officers and chairmen of county auxiliaries.

The response to the appeal, which I sent out the middle of the year, was very gratifying. I wish to thank those counties which so loyally responded to the request and made it possible to fill the space so generously allowed us in THE JOURNAL.

I have not kept track of letters to or from my desk during the year.

I wish to remind all members that three years ago we were requested by the State Medical Association that we use our husband's name or initials in all auxiliary work.

It has been a pleasure to do this small bit for our organization, and has made it possible for me to keep in touch with the work which will always be of great interest.

Recommendations

1. That the next year's Chairman send out letters at regular intervals requesting reports of auxiliary activities, enclosing a stamped and self-addressed envelope.

2. That all news items must be sent directly to the State Chairman so that she can get them in the desired form for the editor thus simplifying notes and eliminating the duplication of notes sent in.

MRS. W. M. BICKFORD, Chairman.

Mrs. Bickford moved that her report be adopted. The motion was seconded and carried.

Mrs. Bickford moved that the Corresponding Secretary be instructed to write Dr. Goodwin a letter expressing our thanks and gratitude for his help, not only in the last year, but since the organization of the Auxiliary in Missouri. The motion was seconded and carried.

Mrs. J. DeVoine Guyot, Higginsville, Courtesy Chairman, read her report, as follows:

REPORT OF COURTESY COMMITTEE

Telephone calls where there was illness in families, twenty-five; notes of sympathy, ten; letters of congratulation, seven; letters sent to Auxiliary members in hospitals, six; letters to sick members or where there was illness in families, twenty; letters to committee members, twenty-four. We have sent flowers to three homes where there was sickness and presented a bouquet of flowers to a guest of honor at a meeting.

We hope that the next year's Courtesy Committee will be able to report greater activities than has been possible for us to do, but inasmuch as this is an innovation in the work of the Auxiliary, we feel that we have laid the foundation for a work that is both needed and appreciated.

As Chairman of the Committee, I desire to express my thanks and appreciation to the various members of the committee for their cooperation, and to Mrs. McAlester for her many helpful suggestions and kind words of encouragement.

MRS. J. DEVOINE GUYOT, Chairman.

On motion the report was adopted.

Mrs. M. P. Overholser, Chairman of Public Relations Committee read her report as follows:

REPORT OF PUBLIC RELATIONS COMMITTEE

In January of this year our State President, Mrs. A. W. McAlester, received the request of our National Chairman of Public Relations, Mrs. A. Haines Lippincott, that a state chairman of Public Relations be appointed. I was asked and agreed to serve in that capacity.

The chief objectives agreed upon were to supply, where they would be most helpful, health envelopes issued by the Woman's Auxiliary to the American Medical Association and to determine the phases of the work of the State Board of Health wherein we might render the greatest assistance and to render that assistance where practicable. This program followed the general recommendations of our National Chairman of Public Relations.

It affords me pleasure to report that our National President-Elect, Mrs. A. B. McGlothlan, St. Joseph, who is also the Director of the Department of Health in the Missouri Branch, National Congress of Parents and Teachers, had already done a monumental piece of work in furthering both

of these projects. At her own expense, Mrs. McGlothlin had printed some two thousand copies of the health envelopes issued by the Woman's Auxiliary to the American Medical Association and sent these to the president of every local Parent-Teacher Association in the State and to all state, district, and county officers of the Parent-Teacher organization, and has through her Department very thoroughly acquainted that organization with the public health plans of the State Board of Health. To reinforce her work through the schools of the state your Committee in cooperation with the Health Department of the Missouri Branch, National Congress of Parents and Teachers, sent a letter to each of the 112 county superintendents of schools in the State accompanied by the health envelopes on "Communicable Diseases," and a leaflet explaining and recommending the county health unit, and a mental hygiene study course. The county superintendents were asked to recommend these to the teachers of their counties and also to suggest that the teachers ask the State Board of Health to place their names on the mailing list of the Missouri Public Health News, the health bulletin of the State Board of Health.

Cooperating with the State Board of Health in its program, letters were written to all our county auxiliary presidents asking their aid in furthering the board's plan for county child-health councils in every county. They were also asked to recommend that the women of their auxiliaries should wherever practicable have membership in the women's organizations of their communities.

Letters have been written Mr. Charles A. Lee, State Superintendent of Schools, asking that he suggest cooperation with the State Board of Health to the teachers of the State through the county superintendents of schools.

Other letters, in the interests of the plans of the State Board of Health were sent to the president of the Missouri Federation of Women's Clubs and to the president of the Missouri Auxiliary and to the American Legion. Altogether some two hundred letters have been sent out by this department. I desire to state that the typing and mailing of these letters has been done with the very great kindness and interest of our President, Mrs. A. W. McAlester, through her office.

We feel that the work has not been in vain, although your Chairman confesses that the work would have been more effective if more follow-up letters had been written.

MRS. M. P. OVERHOLSER, Chairman.

On motion the report was adopted.

Mrs. Overholser moved that a Budget Committee be appointed. The motion was seconded and carried.

The President appointed Mrs. R. C. Haynes, Marshall, Chairman of the Budget Committee.

Mrs. U. G. Hoshaw, Joplin, read the report of the Credentials Committee.

Mrs. H. B. Goodrich, Hannibal, Chairman of the Resolutions Committee, read her report as follows:

REPORT OF RESOLUTIONS COMMITTEE

We, the Committee on Resolutions, submit for your approval the following:

Resolved, That our sincere and deep appreciation and thanks be expressed to our outgoing President, Mrs. A. W. McAlester, and the retiring officers and directors for their efficient work of the last year, and the opportunity they have arranged for us to hear the helpful addresses of Drs. Fishbein, Gayler, Harrison, Chenoweth and Jackson.

That we cannot adequately express our words of thanks to the Jasper County Auxiliary, and especially to Mrs. L. C. Chenoweth, for their graceful hospitality and admirable arrangements for our entertainment.

Resolved, That we express our gratitude to Dr. Goodwin for his helpful cooperation and goodness throughout the year.

MRS. H. B. GOODRICH, Chairman.

On motion adjourned.

ARGYRIA FOLLOWING EXCESSIVE USE OF SILVER ARSPHENAMINE

S. William Becker and Earl B. Ritchie, Chicago (*Journal A. M. A.*), report two cases of argyria following overtreatment by silver arsphenamine. The clinical diagnosis was substantiated by histologic examination, including histochemical studies. Attention is called to the fact that the administration of 15 Gm. or more of silver arsphenamine is apt to be followed by argyria.

BOOK REVIEWS

TEXT-BOOK OF PATHOLOGY. By Robert Muir, M.A., M.D., LL.D., F.R.S., Professor of Pathology, University of Glasgow, Pathologist to the Western Infirmary, Glasgow. Illustrated. Second Edition. New York and Toronto: Longmans, Green & Co., and London: Edward Arnold & Co. 1931. Price \$14.00.

Professor Robert Muir, pathologist to the Western Infirmary, Glasgow, Scotland, collected his teaching notes preparatory to assembling his experiences for publishing a textbook for the instruction of medical students in human pathology. This review is of the second edition, a book of 852 pages, a relatively small book of light weight so far as ounces are concerned but heavy with information. The text sticks closely to the verities of pathology. It limits itself to the accumulated knowledge of the race. Speculation is totally absent. The facts are so clearly expressed that they are open to verification by all pathologists standing beside the necropsy table. Most American pathologists think in the English language which makes it impossible for Americans to mistake the meaning of this author. The medical writers in Britain are to my mind much better writers than are we and that superiority is clearly manifest in this text.

The illustrations are small, clearly printed and with the text so that the reader is spared the annoyance of seeking them on other pages. Such references to original sources of information as are deemed desirable are incorporated in the text so that one is spared the expense of buying many pages of bibliography, for which we are most thankful.

American writers and publishers of medical books should find much to emulate in Professor Muir's textbook. Style, size and illustrations are pleasing. The price, \$14.00 American money, is no less than shocking. That alone will sharply limit the distribution of a most useful and worthy textbook on pathology.

F. J. H.

THE MEDICAL DEPARTMENT OF THE UNITED STATES ARMY IN THE WORLD WAR. Prepared under the direction of Major General Merritte W. Ireland, M.D., Surgeon General of the Army. Government Printing Office, Washington, D. C. 1931.

Chapter and verse are available, but the occasion forbids demonstrating, that of all branches, services and arms of the Army none has functioned with greater efficiency and none has attained in Army records a more unsullied page than has the Medical Department thereof. Interesting also, and equally demonstrable, the Medical Department has historically manifested its most constructive effectiveness and dependability in direct proportion to the degree of noninterference and nonrestriction by other branches and services and arms.

From time to time, the achievements of forth-standing members of the Medical Corps have added luster not only to the Service, not only to Medicine, but also to the healthfulness and well-being of humanity at large. The honorable traditions, the cumulative constructive accomplishments, the dependable team-effectiveness of the Medical Department of the Army constitute an increasingly precious heritage.

But wholly apart from the more dramatic deeds of the Medical Department there yet remain those

of less spectacular appeal, which nevertheless evidence merit of enduring value and constitute broad porticos, solidly grounded, of fair outlook, constituent portions of the ever-ascending highway of medical and surgical progress.

Such a portico of progress was the sometime four volume monumental "Medical and Surgical History of the War of the Rebellion." So far as known, no such record of equal extent, comprehensiveness and value had been achieved by any other nation.

Since the World War, and sponsored by the Surgeon General of the Army, there have been appearing from time to time single volumes of "The Medical Department of the United States Army in the World War." With the appearance of each succeeding volume the scope of the original concept and the unprecedented completeness of its detailed fulfillment, became progressively strikingly convincing. This comprehensive thesaurus of the contribution of the Medical Department of the Army as its quota in the huge and complicated team play of the Army, is now complete. The extended scope of this portico of progress is somewhat indicated by the component seventeen volume titles as follows:

1. The Surgeon General's Office. 2. Administration American Expeditionary Forces. 3. Finance and Supply. 4. Activities Concerning Mobilization, Camps, and Ports of Embarkation. 5. Military Hospitals in the United States. 6. Sanitation. 7. Training. 8. Field Operations. 9. Communicable and Other Diseases. 10. Neuropsychiatry. 11. Surgery: Part I, General Surgery, Orthopedic Surgery, Neurosurgery. 12. Surgery: Part II, Empyema, Maxillofacial Surgery, Ophthalmology, Otolaryngology. 13. Pathology of the Acute Respiratory Diseases, Gas Gangrene Following War Wounds. 14. Part I, Physical Reconstruction and Vocational Education. Part II, The Army Nurse Corps. 15. Medical Aspects of Gas Warfare. 16. Statistics: Part I, Army Anthropology. 17. Statistics: Part II, Medical and Casualty Statistics.

The reviewer has failed to find in this collection any volume or any section dealing specifically with the functioning of the Medical Department in its specialized work incident to the pressing demands made thereon by the Air Service: for therein was found traumatism raised to the nth degree of complexity, therein was created the early paragraphs of the aerial transportation of the sick and wounded, therein was developed that which later has become known as Aviation Medicine. Very probably this omission was intentional; if so, it would appear infelicitous. The nearest approach to a discussion of this important and diversified field must be sought in Aviation Medicine, Army Medical Bulletin No. 26, under the imprimatur of The Medical Field Service School, Carlisle Barracks.

The temptation is great, but the hand must needs be stayed, to discuss the substantial increase of prestige and respect of American Medicine and Surgery among the European peoples; and how this increase of prestige and respect was most largely activated by the demonstrated capability and effectiveness of American physicians and surgeons serving in the Medical Department of the United States Army during the World War. If this temptation must needs be resisted, equally must it needs suffice to state that this many-volumed thesaurus records these notable achievements.

As adequately to review in a strictly limited space is an impossibility, it but remains to accentuate the fact that of all the accomplishments wrought during the extended tour of duty of Surgeon General Ire-

land, surely none will yield him higher or more enduring satisfaction than the well-rounded and abundant completion of this portico of progress, this monumental work of reference and record.

The Medical Department may well be proud of its World War achievements; the Army may well be proud of its Medical Department. N. W. S.

THE RENAL LESION IN BRIGHT'S DISEASE. By Thomas Addis, Professor of Medicine, Stanford University, and Jean Oliver, Professor of Pathology, Long Island College of Medicine; Formerly Professor of Pathology, Stanford University. With 170 full page plates, 2 in color, 21 text illustrations and 1 folding table. New York: Paul B. Hoeber, Inc. 1931. Price \$16.00.

In his introduction Addis states that one of the purposes if not the main purpose of the monograph is to compare clinical and pathological facts with the intention of determining the degree of correlation between them. The study of function is important. If, however, it leads one to rely solely on clinical tests and to ignore fundamental structural change it diverts the student from the steep and stormy path to full understanding.

The clinical aspect of the subject is discussed by Addis, the pathological side by Oliver; the clinicopathological observations are by the two authors.

Addis furnishes a clinical classification of Bright's disease in accordance with the nature of the renal lesion. He recognizes hemorrhagic Bright's disease, degenerative and arteriosclerotic types.

The technic of the pathological methods is described in detail. The results of painstaking morphological study are described in condensed manner. Pathological studies were made and reports submitted without a knowledge of the clinical features by the pathologist.

Clinical and pathological features are correlated, the theory of Bright's disease discussed and the author's classification then described.

Attention should be called to the author's facility of expression. The style is limpid and there is no thought confusion even when definite conclusions cannot be reached. Examination of the urine is reinstated to its high place as a clinical method. It is urged that the clinician must do his own urinalysis and not delegate it to a technician. The illustrations, plates and figures are excellent, not meaningless as they so often are. The book is a comprehensive study and should attract clinicians and pathologists. L. S.

MATAS BIRTHDAY VOLUME. A Collection of Surgical Essays. Written in honor of Rudolph Matas, New Orleans. With 102 illustrations, 5 in color, and portrait of Dr. Matas. New York: Paul B. Hoeber, Inc. 1931. Price \$10.00.

The pupils, colleagues and friends of Dr. Rudolph Matas have published in his honor this volume of surgical essays. A mere perusal of the list of names comprising the committee directly responsible for the completed work furnishes one a foretaste of the banquet to be served. Then, as one reads the unsigned introductory chapter, "An Appreciation of Professor Rudolph Matas," one becomes fully awake to the fact that this is no ordinary birthday volume, no mere formal *Festschrift*; rather is it a task of tender and affectionate sentiment on the part of younger worshippers of the master. Another striking feature of the volume is the delicate inferential fashion in which it sets up Matas as a man of the

world, a surgeon whose birthday volume is framed not by the geographical limits of America. The influence of the man finds full expression only by including Italy, France and Spain.

There are twenty-one contributions that cover the fields of vascular surgery, intestinal, stomach and rectal surgical disease, cancer, anesthesia, plastic surgery, the surgery of the spleen and of hydatid disease of the liver, a biographic essay on the surgeon Halsted and a no less pleasing essay on the role of the senses in science.

It is better thus to sketch the volume in a general way than to specify titles and authors for this is no book for detailed critical analysis. It is a volume to own both as treasure and as storehouse of information, one of those rare volumes that one may fondle and yet regard as an essential part of his working armamentarium.

Much might be said commendatory of the publisher, Paul Hoeber, but it can all be condensed in the thought that this is the sort of book one would expect from the workshop of the man who during all these years has sponsored the incomparable *Annals of Medical History*.
M. G. S.

THE DISPLACEMENT METHOD OF SINUS DIAGNOSIS AND TREATMENT. A Practical Guide to the Use of Radiopaques in the Nasal Sinuses, with 146 illustrations and a chart. By Arthur W. Proetz, A.B., M.D., Assistant Professor of Clinical Otolaryngology in the Washington University School of Medicine, etc. St. Louis: Annals Publishing Company. 1931. Price \$6.00.

This monograph is a very comprehensive treatise on the displacement method of sinus diagnosis and treatment and a practical guide to the use of radiopaques in the nasal sinuses. The work not only includes much valuable original research but represents a distinct advance in our methods of diagnosis and treatment of the sinuses. After a brief introductory chapter, the author proceeds with the consideration of the principles and practice of displacement, and then follows with the description, apparatus employed, the physics and physiology of the sinuses, anatomic considerations and the pathology and theory of treatment. The various types of radiopaques and the method of their introduction is considered in detail. Several chapters are devoted to roentgenology and the practicability of partial filling of the sinuses. Studies in topography, cell identification, film interpretation and a consideration of the sources of error are clearly described. The last two chapters are devoted to the use of the displacement method in children and observations of allergic changes in the sinuses by means of radiopaques. The author is to be highly congratulated for this original and important contribution to rhinology.
F. K. H.

WHAT THE PUBLIC SHOULD KNOW ABOUT CHILDBIRTH. By Walker B. Gossett, M.D., Midwest Company, Minneapolis, Minn., p. 290. Price \$2.00.

"What the Public Should Know About Childbirth" is understandingly written in the language of the layman and is a satisfactory answer to many of the questions over which the public is mulling. It is becoming obvious, in recent years, that legitimate physicians are not adequately exercising their function of teaching the public. The fakir, at great length and with much verbosity, explains more and more about less and less. This is a result of his

attempt to be impressive while in possession of a very limited number of facts.

The author intelligently discusses the phenomena of normal pregnancy and labor, and delicately touches on some pathological conditions. The chapters on pre-natal care and maternal impressions should be read by every prospective mother.

Dr. Gossett has quoted generously from eminent authorities, and the book should be in every physician's library. It can safely be recommended to his clientele as being both interesting and instructive.
M. A. H.

CLINICAL DIAGNOSIS BY LABORATORY METHODS. A Working Manual of Clinical Pathology. By James Campbell Todd, Ph.B., M.D., Late Professor of Clinical Pathology, University of Colorado, School of Medicine, and Arthur Hawley Sanford, A.M., M.D., Professor of Clinical Pathology, University of Minnesota (The Mayo Foundation); Head of Section on Clinical Laboratories, Mayo Clinic. Seventh edition, thoroughly revised with 347 illustrations, 29 in colors. Philadelphia and London: W. B. Saunders Company. 1931. Price \$6.00.

The sixth edition of Todd and Sanford's work appeared in 1927. Since that time many new procedures have come into use, such as Corper and Uyei's method for the culture of the bacteria of tuberculosis; Fairhall's method for detection of lead; Folin's new methods for precipitation of protein, uric acid and sugar, and new methods for determining calcium, blood and plasma volume. All these are given in full in this new edition as well as a number of other new clinical laboratory procedures, including the Aschheim-Zondek test for pregnancy.

In every respect the standard of this successful laboratory manual is maintained and kept up-to-date so that it will continue to be one of the best and most necessary books for all laboratory workers and for physicians who do any laboratory work.
R. L. T.

HYPERTENSION AND NEPHRITIS. By Arthur M. Fishberg, M.D., Associate Physician to Beth Israel Hospital; Adjunct Physician to Mount Sinai Hospital, New York City. Second edition, thoroughly revised and enlarged. Illustrated with 38 engravings and 1 colored plate. Philadelphia: Lea & Febiger. 1931. Price \$6.50.

The author of this book, who is known particularly for his anatomic studies of circulatory disease, has written what is in many respects the most satisfactory treatise upon this troublesome and complicated subject. He shows an unusual grasp of the enormous literature on hypertension, which is reviewed in a most enlightening manner. The demonstrated facts are discussed in a most interesting fashion and the numerous theories of hypertension treated with rare discrimination and judgment. The book gives abundant proof of great industry, of saneness of viewpoint, of critical judgment and of conservative imagination—if such an apparently contradictory statement is permissible. This work is not a dry-as-dust compilation but is written in a style full of both interest and charm. The make-up of the book is attractive, the illustrations well chosen and illuminating. Dr. Fishberg's book can be unreservedly recommended to any one interested in hypertension—a subject in which every medical student and physician is or should be interested.
R. H. M.

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E. J. GOODWIN, M.D., Editor
1023 Missouri Building, St. Louis, Mo.
Telephone, Jefferson 5261.

PUBLICATION { J. C. B. DAVIS, M.D., Chairman
COMMITTEE { G. WILSE ROBINSON, M.D.
M. A. BLISS, M.D.

MODERN TREATMENT OF CANCER OF CERVIX UTERI * †

H. S. CROSSEN, M.D.

ST. LOUIS

There has been a great change in the treatment of cancer of the cervix uteri in recent years. Fifteen years ago we had to depend entirely on the knife and the splendid radical operation saved many patients from death by cancer. However, the operation itself necessarily carried a high mortality. Hence a constant world-wide search was made for a safer method that would be as effective. From the many things tried, radium emerged as the only measure comparable to the knife in effectiveness.

The careful use of radium rescued cases which were beyond reach by even the most radical operation. Its effectiveness in these cases caused it to be used earlier and earlier until now radiation in the form of radium and roentgen ray is the established treatment in all except the very earliest cases. In the exceptional early case in which the process is still confined to the cervix operation in addition to radiation may be advisable. But in nearly all cases the process has extended beyond the cervix before the patient consults a physician and in these careful expert radium treatment gives the patient a much better chance for life than any operation no matter how radical.

Our experience at the Barnes Hospital of the Washington University Medical School in the treatment of cancer of the cervix with radium and roentgen ray now extends over a period of ten years. As part of our study of the various questions connected with cancer of the uterus we completed an analysis of 121 cases of cancer of the cervix treated more than five years ago. The conclusions from the series of the five years' cures were presented at the American

Gynecological Society in May, 1931, and published in *American Journal of Obstetrics and Gynecology*¹ where the various details may be found by those especially interested. One of the striking facts brought out was that even in the cases of clinical class three—with extension of the cancer infiltration to the pelvic wall, fixing the uterus—there was cure in 21 per cent, a much higher percentage than could be secured by any operation in this advanced class.

EFFECTS OF RADIUM TREATMENT

How is it that radium can kill cancer cells beyond the point where we can go with the knife—even out to the pelvic wall among the muscles and fasciae and large blood vessels as well as about the ureters and in the rectal wall and bladder wall? It is due to a "differential" killing effect by which the cancer cells are killed while the tissue cells survive.

How does radium kill the cancer cells without killing the intermixed tissue cells? It is due to the fact that new cells in a tissue are less resistant to destructive influences than are old cells. This is a general law which is not limited to radium. It holds true also for the cautery. With cauterization the cancer cells are killed a short distance beyond the killed tissue cells. On this account the wound may heal temporarily until the cancer again reaches the surface. That is the reason for extensive use of the cautery in cancer operations, especially where an incision must be made through cancerous tissue. With the cautery this zone of differential killing is very narrow, a mere line. But with radium it may be made very wide and that fact makes radium far more effective than the cautery or the knife.

EXTENDING THE ZONE OF DIFFERENTIAL KILLING

How may the zone of differential killing of cancer cells be widely extended? How may we push it far out to the pelvic wall to kill the deep-lying cancer cells there? The devitalization of the cancer prolongations at the pelvic wall among the vessels in that situation con-

* Presented at the annual fall conference of the Oklahoma City Clinical Society, Nov. 2, 1931.

† From the Department of Obstetrics and Gynecology, Washington University School of Medicine, and Barnes Hospital.

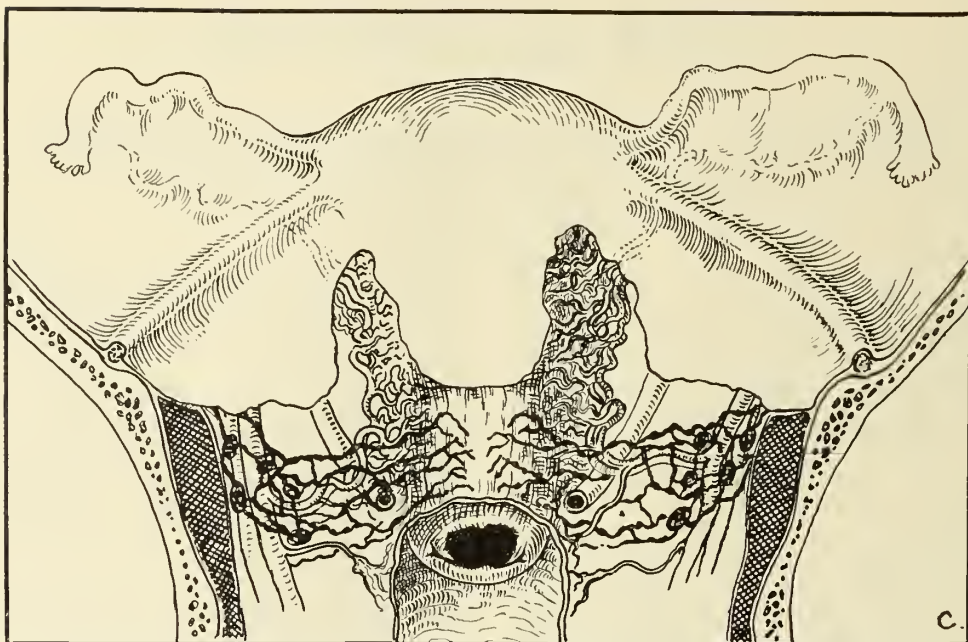


Fig. 1. Diagrammatic representation of extensions outward from a carcinoma of the cervix uteri. The lymphatic involvement is indicated by the dark lines and shaded glands. Devitalization of the cancer cells in the outlying area at the pelvic wall constitutes the crucial problem in effective treatment.

stitutes the crux of the problem. The patient's chance of life depends on the killing of these outlying cancer cells. We must not allow our attention to be diverted from this vital point by the striking effect of radium on nearer portions of the growth. The destruction of the large mass of cancer in the sloughing area about the cervix and consequent healing is only incidental to reaching the cancer cells farther out. This local destruction about the cervix could be accomplished with the knife or with the cautery—there is nothing distinctive about that. The distinctive and superior effect of radium is the extension of the devitalization to include the cancer cells at the outermost margin of the growth. If we do not reach these outlying cells our radium treatment has failed, except as a temporary measure.

This extension of the devitalizing effect of radium to the outlying cancer cells is attained by screening. By the use of screening materials around the radium (platinum, silver, brass, lead, rubber) the soft sloughing rays are diminished thus permitting an effective dose of the hard penetrating rays. Great progress has been made in increasing the effectiveness of radium placed in the cervix, that is, in the center of the cancerous mass. The principles of screening for the curative use of radium in this serious lesion I have described in detail and illustrated in a previous paper.²

This heavy dosage from the center of the mass is one way of reaching the outlying cancer cells and devitalizing them. It has proved

effective in a very encouraging proportion of the cases, as already explained. However, we are always searching for improvements—for some plan that will devitalize the outlying cancer cells still more effectively. This problem is so important that it has for some years been the subject of constant and world-wide study and experimentation. The effect of a heavy dose of radium in the center of the pelvis diminishes rapidly toward the periphery, hence the failure to cure in certain cases where the malignant infiltration has deeply involved the outlying pelvic structures.

LATERAL IMPLANTATION OF RADIUM

Numerous and varied attempts have been made to place the radium nearer to the outlying involved areas by application in the rectum, by thrusting needles out from the vaginal vault, and even by placing needles or radium tubes by means of an abdominal incision. These methods have proved dangerous and unsuccessful as might have been predicted from the limitations imposed.

Of all the expedients proposed the world over for placing radium nearer the crucial outlying area, only one has proved of real benefit in any considerable number of cases. That is the plan of Dr. Adler, of Vienna. He attacked the problem in a way that has added materially to the effectiveness of treatment in certain types of cases. The plan involves a radical vaginal operation for removal of the uterus and parametrium, and then the immediate implanta-

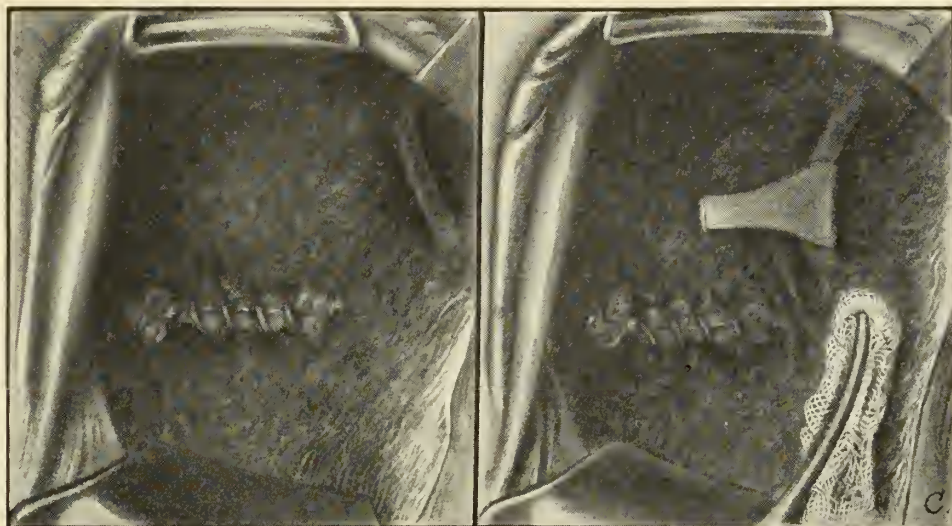


Fig. 2. Showing conditions after removal of the uterus and parametrium by radical vaginal operation for cancer of the cervix. The peritoneal opening has been closed. The ureters are freed, as shown here in the left side of the pelvis.

Fig. 3. Preparatory to radium implantation, the ureter is drawn inward, as here shown, and gauze strip placed outside of it.

tion of properly screened radium deep in the metastatic area of each side. This implantation is made through the vaginal operative wound. The implanted radium is in long rubber tubes, which are removed after a certain number of hours.

The outlying areas of cancer infiltration at the pelvic wall are shown in figure 1 where the lymphatic involvement is indicated by the dark lines and shaded glands. In figure 2 the uterus and parametrium have been removed by radical vaginal hysterectomy for cancer of the cervix

and the peritoneal opening has been closed. The ureters are exposed, as here shown in the left side of the pelvis. The extensive operation is carried out under local anesthesia. The operation is conducted in a way to minimize the bleeding and ligation, so that ordinarily ligatures are required only for the uterine and ovarian arteries and the uterosacral tissues. This gives access to the involved region at the pelvic wall.

The ureter is drawn gently inward and gauze placed outside, as indicated in figures 3 and 4.

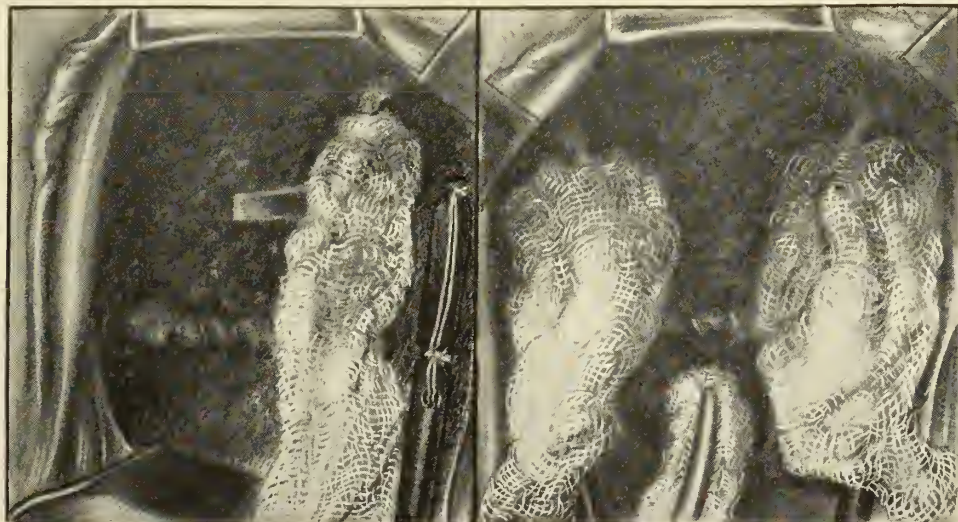


Fig. 4. Showing the location of the radium (in rubber tubing) against the involved tissues of the pelvic wall. The gauze between the radium tube and the ureter protects the latter. Gauze is then placed to hold the radium in position (fig. 5).

Fig. 5. The other side of the pelvis is treated the same way; then the central area is packed with gauze as here indicated.

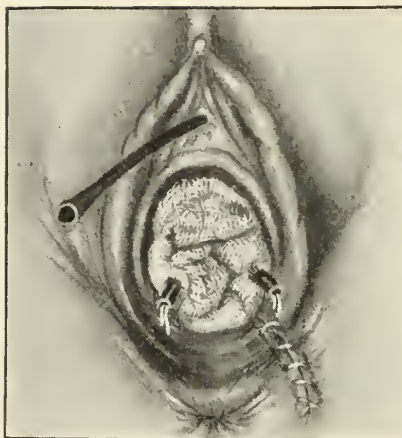


Fig. 6. Operation and radium implantation completed. The ends of the rubber tubing are brought out as here shown. The threads that hold the radium in place in the tubing project at the ends. A retained catheter is used to keep the bladder empty. The suture line is the paravaginal incision, which is necessary to give room for the deep work.

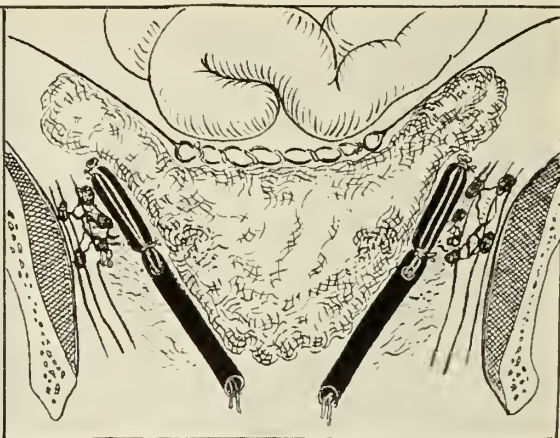


Fig. 7. Diagrammatic representation of a cross-section of the pelvis after completion of the operation and radium implantation. Note that the radium tubes are brought in direct contact with the involved tissues at the pelvic wall.

Then 50 mg. of radium, with the usual metal screening for deep work and placed in the end of a rubber tube, are introduced outside the gauze as shown in figure 4. This places the radium immediately in the outlying involved area, which is so difficult to reach by effective radiation from the center of the pelvis. Another strip of gauze is packed in to hold the radium in position, as shown in the same side in figure 5.

The other side of the pelvis is treated the same way, and then gauze is placed in the center (fig. 5). The ends of the rubber tubing are brought out as shown in figure 6. The threads fastening the radium containers in the rubber tubing are brought out at the lower end of the tubing. A retained catheter is used as here indicated. The suture line indicates the repaired paravaginal incision which is necessary to give adequate exposure for the extensive deep work. Figure 7 is a diagrammatic cross-section showing the relation of the radium tubes to the involved area at the pelvic wall on each side.

The radium tubes are left in position for six to ten hours, depending on conditions. In cases with extension along the uterosacral ligaments it may be advisable to place an extra tube in that region. In certain cases, about eight weeks after operation, additional radium application is made in the rectum and vagina. Deep roentgen ray therapy is given ten days after operation and is repeated twice at intervals of six months.

Doctor Adler recently presented his method in this country, with statistics of the results thus far secured. It has been employed for a sufficient time and extent to show that when

carried out thoroughly in properly selected cases it adds very materially to the percentage of cures.

PROPHYLAXIS OF CERVIX CANCER

This is practicable and presents the best hope of further material reduction of deaths from cervix carcinoma. The time to cure cancer with greatest certainty is before it starts. Cancer of the cervix comes from long-continued irritation in the form of chronic cervicitis, usually accompanied with laceration, infiltration and cystic change. These lesions are very obvious and their role in cancer origin is generally known and yet they are allowed to go on and on well into the cancer age. In cases of chronic cervicitis great pains are taken to detect the first signs of cancer so that treatment for cancer may be promptly instituted, whereas, a far safer plan is to remove the chronic cervicitis before it becomes cancer.

Chronic cervicitis may be cured by simple conical excision of the affected area of the cervix and thus cancer be prevented. But when the process has once advanced from inflammatory hyperplasia to cancerous proliferation cure is uncertain by even the most radical methods. Why procrastinate until the possibility of cure by a simple operation has slipped away?

I feel that this is a very important phase of the cancer problem. Repeated insistence by gynecologists in their writings and in their teaching to students, that it is imperative to make prompt removal of chronic irritation in the cervix in the latter part of the childbearing period, will greatly aid in establishing this practice. When this practice becomes general in

the profession it will save many patients from death by cancer.

University Club Building.

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THE TECHNIC OF BREECH PRESENTATION *

E. LEE DORSETT, M.D.

ST. LOUIS

Infant mortality in breech delivery is so much higher than in all other forms of presentation that I feel a review of the methods, with the addition of some suggestions taught by personal experience and from the work of Dr. Potter, of Buffalo, may not be out of place. Even to well-trained physicians a breech presentation is a cause for anxiety, especially if the mother be a primipara. Then there are cases with a contracted pelvis or a large child and a normal pelvis. In the two last named conditions the difficulties arising during labor are oftentimes insurmountable, but we can avoid them by taking proper pelvic measurements or induce labor prior to the fortieth week.

Early in labor we may encounter a premature rupture of the membranes and a prolapsed cord to add to the complications. As labor progresses and an attempt at delivery is made the greatest difficulty arises in the delivery of the arms, especially if one or both become nuchal (turned back behind the head or neck), and the extraction of the after-coming head.

The belief that the child is lost because the arms "went up over the head" is not tenable because this position is just the one desired and the only way in which the arms can be delivered.

When one or both of the arms become nuchal considerable care and skill must be exercised in disengaging them as the time is short and if care is not exercised a fracture of the arm or clavicle may result and if too much time is lost the child may die of asphyxia.

With the delivery of the arms and shoulders we are then faced with the second difficulty, namely, the after-coming head. In the performance of an internal podalic version or delivery of a vertex presentation there is much less difficulty with the head because it is moulded or partially moulded by having been more or less engaged in the pelvis in the last weeks of labor, or in the first stage of labor, while in a breech presentation the head is somewhat flat-

tened and its anteroposterior diameter increased by the pressure of the fundus upon it.

The conversion of a breech presentation into a vertex presentation before labor sets in or when it starts is not an easy procedure and when done seldom retains the desired position; it may cause the child to become entangled in the cord and in some cases has been known to disturb the placental attachment.

The difficulty arising in the extraction of the after-coming head is due to the fact that the head is drawn through the pelvis with the fetal cone (the head) having the apex and small diameter foremost instead of last, as in a vertex delivery. Also, as mentioned above, we are dealing with an unmoulded head.

A third difficulty may arise from the retraction of the cervix around the head or neck of the child due to incomplete anesthesia, or because the extraction is attempted when the cervix is not completely dilated, or the delivery attempted too soon after the expulsion of a hydrostatic bag used for the induction of labor.

A most unfortunate but rather rare complication is the marked extension of the after-coming head.

An episiotomy before any attempt at extraction will enable the operator to work with considerable ease and little danger to the child, and prevent extensive perineal lacerations.

Some obstetricians believe that a breech should be delivered when the cervix is completely effaced and before the presenting part is engaged, or if engaged when it can be dislodged and pushed up into the uterus. Others think the breech should proceed into the pelvis and down on the floor and protrude through the vulvae so the leg can be extracted before any interference is attempted. The choice of these methods depends entirely upon the judgment and skill of the operator.

TECHNIC

Anesthesia.—Deep anesthesia with ether or chloroform is essential. Gas or ethylene does not give sufficiently complete anesthesia to be of value as the uterus may contract upon the fetus during delivery or the cervix recontract on the after-coming head. My personal experience leads me to believe that twilight sleep makes the patient an unfit subject for either a podalic version or a breech extraction because the drugs used occasionally produce some asphyxia in the child and this added to the fact that there is always some compression on the cord would be fatal to the child.

Position of the Patient.—When the patient is thoroughly under the anesthetic she is drawn down on the table with the buttocks well over the edge; the legs are flexed, the knee bent and

* Read at the 74th Annual Meeting of the Missouri State Medical Association, Joplin, May 11-14, 1931.

the feet are held by two assistants or rest on chairs with the back facing. This position is what might be called a modified Walcher position. The position is essential as the usual method of placing the feet in leg holders raises the pelvis, shortens the anteroposterior diameter and stretches the perineum by too much separation of the legs. The operator has sufficient room between the legs to work even if the limbs are not separated in the old-fashioned way.

Perineal and Vaginal Relaxation.—When the patient is in position and completely anesthetized the vagina is filled with sterile liquid soap and thoroughly dilated, or, as Potter says, "ironed out." At this time the patient should be catheterized in order to prevent a distended bladder from hindering the extraction of the head.

Delivery of the Feet.—At this point if we are dealing with a footing our problem is fairly simple, but if it is a frank breech it will become necessary to disengage the legs. If you prefer delivering the patient before the part has reached the floor, it will be necessary to dislodge the breech by pushing it up into the uterus and bringing down first one leg and then the other. Complete relaxation is essential. The hand and arm (personally, I use the left) are introduced into the uterine cavity and one leg at a time is brought down into the vagina, but care should be used in order not to fracture or dislocate a limb. The feet should be grasped and by steady and firm traction brought through the vulvae. I much prefer bringing the breech down posteriorly so that the buttocks are in the hollow of the sacrum, because if brought down anteriorly (especially if we are dealing with a large fat baby) they may impinge upon the symphysis, and considerable difficulty is then encountered. When the child has been delivered as far as its knees it is rotated posteriorly and the buttocks swung around under the symphysis, and the child is now delivered as far as the buttocks.

Traction is made by grasping the child over the buttocks, with the thumbs over the sacrum of the infant and the hands curved forward over the lower abdomen and groin of the child. It is now imperative that traction be made downward by a steady pull. When the child is delivered as far as the umbilicus it becomes necessary to work somewhat speedily, as the head is now entering the pelvis and the cord is becoming compressed between the pelvic wall and the child's head. I hesitate to state any definite time during which the child can stand this compression, but not longer than two or three minutes is a fairly safe limit. With the maneuver continued in a downward direction, the

child is drawn down until the scapula begins to appear under the symphysis, and then turned laterally (either right or left) until one shoulder is anterior. The traction is then continued until a shoulder appears; the operator's hand is then pushed over the child's shoulder, the upper arm is grasped and the entire arm of the child is delivered, sweeping over the face, chest and abdomen of the infant. When the anterior arm is out the body of the child is turned so that the former posterior arm becomes anterior and it is delivered in a similar manner. If difficulty is encountered in attempting to pull the shoulders under the symphysis we are then fairly sure that we are dealing with a nuchal arm or arms. If this develops the body of the child is grasped and pushed back into the uterus and half around, then swung around so that the part is upward. After doing this several times the nuchal arm is disengaged and the scapula of the anterior arm can be pulled under the symphysis.

After-Coming Head.—When both arms are delivered the child is allowed to rest on the arm of the operator, the arm hanging down, and the operator's hand introduced into the vagina; the first and second fingers are introduced into the child's mouth over the tongue and slightly down its throat. Considerable traction is now made backward, downward, forward and upward. When the child's mouth is out of the vagina, and only then, the limbs and body of the child are brought up over the abdomen of the mother. When the mouth is out slight traction delivers the rest of the head. When making traction with the fingers in the child's mouth, considerable pressure should be made just behind the symphysis on the occiput of the infant, either by the operator's free hand or by an assistant, to force flexion of the head and assist its entrance into the pelvis. There is nothing more tragic than an after-coming head that sticks at this point and if the head is not delivered at once the child is lost.

CONCLUSION

In the interest of both the mother and child a regular routine method should be followed and the above technic has given the best results in my hands.

It is only by following a carefully worked out plan that we can expect favorable results in this serious complication in obstetrics.

1216 Missouri Building.

STALE BREAD IS BETTER

Freshly baked bread is not as readily digestible as stale bread, says *Hygeia*. The fresh bread remains in a solid lump when it is swallowed, and not so much surface is exposed to the digestive secretions.

EPITHELIOMA

O. H. McCANDLESS, M.D.

KANSAS CITY, MO.

Some criticism has been offered, that subjects discussed in the popular medical literature have too often been presented with so much technical data that they cease to have interest for the casual reader. This discussion will therefore be limited to the simpler factors in the behavior and misbehavior of the basal and squamous cell types of growth. It was prompted somewhat by an unnecessary number of cases coming to us for treatment which had been subjected to ineffective roentgen or radium exposures.

The major published data on this subject are and should be in special or technical literature where efforts at technical explanation, statistics and dosage tables belong. I am convinced that the general profession may profit by a presentation of some of the observed phenomena in roentgen therapy of epithelioma during the past three decades. The dosage administered under the old fractional method was given daily or on alternating days with administration of thirty to seventy treatments and was far in excess of that used in present-day methods.

The first cure of epithelioma was probably in Stockholm thirty-four years ago. Pusey reported uniform results twenty-nine years ago. The same author reported 72 per cent of cures twenty-two years ago. McKee gives statistics of 98 per cent clinical cures, 94 per cent to 96 per cent being permanent in selected cases. The cosmetic results in the areas thus treated twenty-five years ago are today excellent. The return of patients who are now aged and have developed growths in new locations give us an opportunity for observation of the old areas treated during the patient's earlier active life.

It is not necessary today to dispel the old fear that therapeutic dosage was likely to be productive of cancer. This fear naturally arose from the untoward effects of minute and prolonged radiant energy encountered by the unprotected worker with the roentgen ray of early days. A few cases of fractional dose keratosis and a few cases of telangiectasis occurred.

A patient is now under treatment for skin growth on the body who retains a keratosis on the face from treatment administered by me twenty-nine years ago. Telangiectasis occurred in the treatment of large sectional areas and in skin areas which covered cartilage or covered underlying tissue of vascular poverty.

It is interesting to observe the disappearance of these embarrassing telangiectatic or capil-

lary dilations after a period of twelve to sixteen years, leaving a skin of very tolerable cosmetic appearance. Telangiectasis is therefore not necessarily a permanent condition.

I will make brief reference to Evans' article in the *British Journal of Radiology*¹ and to an article by Roussy and Laborde in the *French Radiological Journal*.¹⁰ They present data to which I will later refer. Our interest in Evans' article lies in the effectiveness of his "massive" and "hypermassive" technic which can only be appreciated by those who have struggled with recurrent growths and with growths that have failed to respond to "ineffective" radiation or to ineffective surgical excision or electrocoagulation.

A recognition of probable radio resistance, from the gross appearance, development characteristics and biopsy report, is vital at the time of treatment for the reason that if the operator awaits response to any ineffectual dose he jeopardizes often hopelessly the eventual cure.

Evans has shown a cure of 60 per cent in cases which had recurred after ineffectual treatment by roentgen ray, cautery, radium and surgical effort. (By way of explanation, "massive" and "hypermassive" doses do not have to do with the penetration or with any specially constructed machine. A small machine is equally effective if the operator is familiar with its output and behavior.)

Heroic effort, whether it is surgical destruction of tissue or roentgen therapy, is permitted when the probable result can be evaluated. The "hypermassive" dose as described by Evans represents from four to seven times the dose required to produce an erythema on the skin. Whether this shall be given in a single dose or in broken doses is a matter of discretion.

I wish to lay much stress upon the behavior of growths as they are encountered in various locations. A lack of response to ordinary dosage is not in itself an indication for heroic



Fig. 1. Showing the appearance in a growth which has repeatedly recurred after treatment. Incurable at this time by roentgen ray or radium because of decreased radiosensitivity, an example of inadequate dosage over prolonged periods of time. The interval between treatments was also too great.

roentgen ray treatment. (For example, Padgett's nipple or cancer of the penis.) Dosage adequate to destroy a leukoplakic area on the palate may result in an aftermath of pain disproportionate to the good to be accomplished; hence, some emphasis on the location factor is permitted.

The Roussy and Laborde article brings to our attention the little known fact that the radiosensitiveness of cancer decreases with each successive irradiation.

There is produced a local tissue resistance to roentgen therapy if an insufficient dose is given primarily. Similar resistance to irradiation is created in the cancer area if the interval between doses is too great.

Metastasis is likely to be a matter of geographic location of the epithelioma, which is another reason why the primary site of growth is of equal if not of more importance than the cell type.

Epithelioma of the Lower Lip.—Epithelioma in this location is as susceptible to radiotherapy as similar growths elsewhere. Involvement of the buccal mucosa and oral invasion are more accessible to and hence more responsive to radium therapy. The jeopardy of lower lip cancer lies in its early submaxillary or submental metastasis, which invades through that short and terribly neglected lymph channel diagonally across the chin. The deeper vessels of the cheek and lips terminate like the superficial in the submaxillary nodes. Both the superficial and deep vessels of the central part of the lower lip run to the suprahyoid nodes.

The incidence of epithelioma lateral to the midline is more frequent, hence the unilateral submaxillary nodes invite and receive more or less attention.

The intervening path, submental and hyoid areas, however, are too often overlooked or neglected with a consequent toll of recurrence.



Fig. 2 A and B. Areas of treatment consist of unfiltered roentgen ray to growth including two cm. of periphery; filtered exposure to the lymph chain leading to the submaxillary gland on the affected side; bilateral filtered exposure to the submaxillary and hyoid areas. (Patient had been treated by us fifteen years prior for epithelioma of face.)

Six years ago one author, who reports 150 lower lip epitheliomas out of 2000 skin conditions treated, devoted 3500 words to this subject without mention of this fundamental and imperative factor in successful treatment.

The success of the old Grant operation and its successor of cervical adenectomy as done at the Barnard Free Skin and Cancer Hospital in St. Louis is due to destruction of this lymph isthmus and its ramifications. A comparison of our early day local treatment of the lower lip with present-day careful attention of these lymph channels is gratifying.

A parallelogram of tissue intervening between the growth and the submaxillary glands is subjected to five exposures of 40 milliamperes minutes of roentgen ray filtered through 4 millimeters of aluminium at a twelve-inch distance within a period of forty days. The same doses are administered to the submaxillary areas bilaterally, coincident with an unfiltered 33 milliamperes minutes treatment to the area of active growth, at a ten-inch distance (not less than four doses being given).

The effectiveness of treatment in this locality is obviously due to the accessibility and superficial location of this metastatic path. The incidence of lower lip cancer is twelve times that of the upper lip and 95 per cent of these growths occur in males. I favored the Grant operation in the suspiciously metastatic cases in preference to roentgen therapy until a routine inauguration of the foregoing technic some twelve years ago.

Epithelioma of the Hand.—The common superficial growths of the dorsum of the hand are uniformly responsive. Invasion to and involvement of the fascia locally, presumes an associated axillary involvement if not a more extensive metastasis.

Amputation, axillary surgery, or the use of high voltage equipment is likely to be equally ineffective if axillary metastasis has occurred. Treatment of the superficial growth by cautery



Fig. 3. Permanently responsive to adequate roentgen ray technic; in the event of recurrence due to inadequate dosage these are intractable to any subsequent curative method.



Fig. 4 A and B. Responsive to any adequate destructive method. Lessened tendency to metastasis or recurrence. Patient treated twenty-five years ago.

or mechanical effort is an unnecessary and an extremely jeopardizing procedure in growths of the dorsum of the hand and is even more to be condemned than ineffective radiotherapeutic dosage.

This statement is reversed in the discussion of keratoses of the nipple and carcinoma of the penis, which are wholly surgical. They are unresponsive to roentgen therapy but effectively and permanently cured by surgery.

Epitheliomas of the Neck.—The high lateral cervical region presents an extremely happy location for the treatment of growths and offers but little jeopardy to the patient even though the crater extends deep into the subcutaneous tissue. The response to treatment is lessened in growths that approach the clavicle.

Epitheliomas of the neck, therefore, should be grouped, in regard to their curability, with similar growths of the face above the mouth line and offer a percentage of cures high in the nineties.

Epithelioma of the Nose and Ear.—Growths of these organs have in common the proximity of yellow and white cartilage with its poverty of blood and lymphoid tissue.

If there is invasion into the cartilage of the nose a high percentage of cures may be expected by hypermassive dosage, or by routine epithelioma dosage which after healing may be



Fig. 6 A and B. Epithelioma of eyelid followed in several instances over periods of 15 to 25 years.

subjected to plastic work on the underlying cartilage and if necessary followed by small unfiltered dosage. In dealing with the ear, if there is positive invasion of the growth into the cartilage at the time the patient is presented for treatment, he is told that the ray will destroy the diseased tissue of the skin but that after the effect of the ray has subsided the skin shall be laid back, the superficial cartilage trimmed and the skin replaced. Such a combined technic gives a high percentage of permanence.

Preliminary destruction of the growth by radiotherapy is essential to surgical cosmetic success, surgery requiring a much wider destruction of tissue to insure results if used alone.

Epithelioma of the Eyelid.—The first growth of the eyelid treated by me was a fungoid mass superimposing the entire orbital area, roughly the size of a lemon, to which seventy fractional treatments were given on the assumption that the sight would be destroyed by any attempt at growth destruction. There was destruction of the mass without measurable impairment of vision. The response to adequate treatment of the eyelid, the cosmetic result and the permanence require no discussion. Obviously the axis of the ray is projected to avoid the orbit but fear of orbital damage under the dosage required for destruction of the growth may be essentially disregarded.

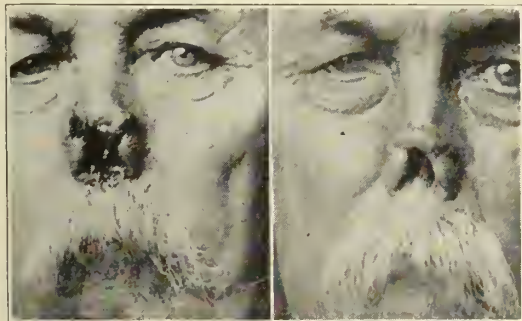


Fig. 5 A and B. Plastic work subsequent to treatment in these cases of cartilage involvement may add both to the cosmetic result and promise of permanence.



Fig. 7 A and B. Epithelioma of upper eyelid permits superior cosmetic results due largely to the greater tissue redundancy.



Fig. 8 A. Biopsy report, epithelioma. Growth involving eyeball treated in 1922. Unfiltered exposures directly to the sclera and pupillary area; therapeutic technic identical with superficial epithelioma elsewhere; no demonstrable change observed in the underlying sclera or field after the roentgen reaction had disappeared. B. Subsequent visual efficiency identical with condition existing prior to occurrence of growth.

The resistance of the eyeball to the effects of roentgen ray therefore permits destruction of epithelioma involving the corneal area without subsequent sight impairment.

In conclusion, it is hoped that some of the phenomena will be helpful to the average doctor, to some of the group who have occasion to utilize roentgen therapy in practice, to those who must select a method suited to his patient's need and to those using other treatment methods in collaboration.

It is hoped that the factors productive of permanent cure have not been over-evaluated. The difficulty of selling surgery of the neck to the potentially metastatic lower lip case is likely to make the treatment problem a live subject until the cancer quack and machinery sale dose tables are extinct. If in closing I have succeeded in discouraging routine dosage, made somewhat clearer factors in radiosensitiveness and carried to you some of the behavior characteristics in epithelioma of the eyes, ears, nose and mouth, it is time well spent.

419 Argyle Building.



Fig. 9 A. Multiple epitheliomatous areas after nine months of ineffectual radium and dermatological treatment in 1920. B. Same after four applications of massive dose technic.

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CARCINOMA OF THE COLON

REPORT OF OCCURRENCE IN YOUNG ADULTS *

CLAUDE J. HUNT, M.D.

KANSAS CITY, MO.

The purpose of this paper primarily is to report a case of colonic carcinoma occurring in a young adult, but before presenting the record I wish to discuss briefly the frequency of carcinoma of the colon in the young, the progress of the growth, and to consider some of the operative procedures.

Carcinoma of the colon and rectum may appear at any age of life, it being more frequently encountered between the ages of sixty and seventy. Youth, however, is no barrier to its development. The following statistics show the relative frequency of its presence in the young:

Cripp, in 380 cases of carcinoma of the rectum, found three between the ages of twenty and thirty and 21 between thirty and forty. Louart collected 61 cases of colonic carcinoma occurring between the ages of twenty and thirty years. Notlnagel encountered a carcinoma of the cecum at twelve years; Czerny, Stern and Schoming found it in the rectum between the ages of eleven and seventeen years; Gerrad in the sigmoid at twelve years and Clair in the colon at three years of age. Phifer collected 23 cases of sigmoid or rectal carcinoma in patients under sixteen years of age. Colonic

* Read at the 74th Annual Meeting of the Missouri State Medical Association, Joplin, May 11-14, 1931.

carcinoma in all ages of life increases in frequency from the cecum toward the rectum.

Brill's statistics of 3563 intestinal growths, showed 97.5 per cent in the colon, appendix or rectum. Kaufman, in 123 intestinal carcinomas, found 36 in the colon, 28 in the sigmoid and 51 in the rectum. Korte, Peterman and Auschutz reported 297 carcinomas of the colon, of which 47 were in the cecum, 22 in the ascending colon, 19 at the hepatic flexure, 44 in the transverse colon, 31 at the splenic flexure, 10 in the descending colon, and 124 in the sigmoid. (Ewing on Neoplastic Diseases.)

Carcinoma of the colon and rectum follows the same histopathologic process in the young as in those of advanced years, except that perhaps it advances more rapidly in the former because cancer is more progressive in the young than in the old. The younger the individual the more rapid are the ravages of the disease.

Carcinoma begins as a localized overgrowth of the epithelial cells, rather embryonic in character. These continue to multiply and increase without regard for the law which regulates cell growth and cell destruction of the surrounding tissue. They are cells which have gone wild, and in so doing have hypertrophied, multiplied and destroyed the normal relationship of the mucous glands and alveoli. These cells finally break through the mucosa and extend along the submucosa, passing in time by way of the lymph and blood channels through the muscularis to implant themselves into neighboring lymph glands and into the lymphatic channels which drain the area involved. Fortunately, this is not rapid. Rectal and colonic cancer do not metastasize rapidly and early operative interference offers a better chance for cure than in cancer elsewhere in the gastro-intestinal tract.

McVay¹ gives an exhaustive report of microscopical studies upon lymph glands removed at specified areas from cases in all stages of rectal carcinoma. Extensive glandular involvement was late and limited to regional lymph nodes in early or moderately advanced cases. The degree of cell differentiation was in direct relationship to glandular involvement. The more undifferentiated the cell the greater the metastatic tendency. Metastasis occurred through the lymph channels or occasionally by embolic invasion to the liver through the portal circulation. When this develops removal is beyond the reach of surgery and yields only slightly or not at all to the roentgen ray or other treatment.

Were this all the development taking place patients might go for a long period of time without seeking relief, as symptoms would be

absent or only terminal. However, other processes local in character are taking place. The growth may encircle the bowel by involvement of the mesh work of lymphatics between the circular and longitudinal muscular coats, or it may grow into the bowel producing a cauliflower-like mass; again, marginal extension with sloughing and necrosis of the center may occur resulting in a crater-like appearance of the growth. Each produces characteristic symptoms and signs. Deformity of the bowel and closure of the lumen result from the encircling of the bowel by the new growth. Here obstructive symptoms occur. Hemorrhage and secondary anemia play an important part in the cauliflower variety. Infections, sloughs, supuration, peritonitis and perforation into adjoining coils of intestine, stomach or bladder occur in the excavating crater-like tumors. It is when one or more of these processes have become well advanced that the patient manifests symptoms sufficient to cause him to seek medical aid.

Surgery offers the only hope of temporary or permanent relief in this condition. The type of operation to be performed depends naturally upon the condition which presents itself and the location of the growth. In cases of acute obstruction where the symptoms are marked and progressive, one can only consider a colostomy after the usual preoperative preparation has been carried out. The bowel is most satisfactorily drained through the sigmoid, descending colon or cecum, depending upon the location of the tumor.

At the time of drainage of a greatly distended bowel it is not wise to explore the abdomen to determine the site and relative fixation of the growth or for metastatic liver involvement, as bacteria are abundant beneath the thin serosa and manipulation may cause peritonitis.

A colostomy performed as a first-stage operation in sigmoid and rectal cancer is of a permanent nature and should be made with that in view. Where then is the best place to make a colostomy of this character and how should the colostomy be made? There are those who elect to make a lower midline abdominal incision for exploration and then make the colostomy through a smaller opening at a site determined after the exploration is completed.

The left rectus location is sometimes selected for the placing of a permanent opening. Some objections are apparent. The muscle cannot be well closed around the bowel and herniation of the colostomy is likely to occur some months after the opening has been made. Again, coils of small intestines may encircle

1. McVay, J. R.: Involvement of Lymph Nodes in Carcinoma of Rectum, *Ann. Surg.* 76:755, 1922.



Fig. 1. An area of the muscularis of the colon infiltrated by irregular nests of tumor cells. (Low power magnification.)

or become twisted around the limbs of the colostomy and obstruction occur. It is more inconvenient to wear protection for a colostomy near the midline than for one located well out to the side, and a colostomy bag is more satisfactorily worn over a side opening.

The best place, in my judgment, for a colostomy is well out to the side near the anterior superior spine of the ileum made through a split muscle incision. Complete exploration can be made through this opening and two incisions are unnecessary. The rectus incision can then be used later in the removal of the growth.

Rankin² calls attention to three important points in a colostomy of the upper sigmoid or descending colon, namely, (1) that there be no redundancy in the proximal loop; (2) that there be no space between the colostomy limbs and the lateral abdominal wall, and (3) that there be several centimeters of skin between the proximal and distal bowel opening after the protruding colon has been excised. The latter is quite advantageous because fecal material may otherwise easily enter the distal opening and produce an annoying condition in the blind pouch which is left after subsequent removal of the growth. The space between the limbs of the colostomy and the lateral abdominal wall is closed by purse string, or by suturing the mesentery to the parietal peritoneum thereby preventing a loop of intestine from becoming obstructed at this point. The colon is pulled well down so that no redundancy of bowel is left in the descending colon proximal

to the colostomy in an effort to prevent later herniation of colonic mucous membrane.

Many attempts have been made to produce a sphincter or to insure fecal control. This is partially accomplished in a certain number of cases when the bowels are constipated. C. H. Mayo³ has used a method in the last few years which has added much in this respect. Through an incision made well out toward the anterior spine he brings from below a strip of the transversalis and internal oblique muscles through an opening in the mesentery of the bowel and sutures it to the opposite side; and from above downward he brings a strip of skin through the mesentery in like manner, suturing it to the skin of the opposite side after the external oblique and aponeurosis have been approximated through the mesocolon. This brings a definite strip of muscle and skin through the mesentery and between the two limbs of the colostomy.

Colostomy of the transverse colon is never desirable and should only be made when the mesentery of the descending colon or sigmoid is too short for delivery, or too fat for practical purposes, or when the location of the tumor makes it imperative. When such is necessary it must be remembered that a long pouch of gut is present and will be a constant source of trouble. It will fill with mucus and fecal material and cause distress, pain and much difficulty in cleansing. When such is made, a posterior mucous fistula should be made at the site of the lower position of the descending colon or sigmoid at the time the secondary

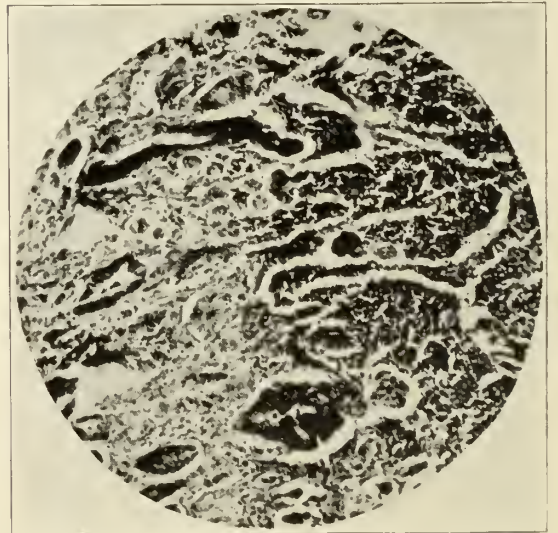


Fig. 2. An area of a mesenteric lymph node infiltrated by carcinoma.

2. Rankin, F. W.: Colostomy and Posterior Resection for Carcinoma of Rectum, *J. A. M. A.* **89**:1961 (Dec. 3) 1927.

3. Mayo, C. H.: A New Type of Permanent Colostomy, *Ann. Surg.* **87**:711, 1928.

operation for the removal of the growth is made. By this method the distal limb of the colostomy can be irrigated through and through and the tract kept open and free of impaction.

A cecostomy is made usually for malignant growths in the ascending colon, hepatic flexure, transverse colon or splenic flexure. Later resection embodies the removal of the growth and the reestablishment of the intestinal colonic tract either by end to side or a side to side anastomosis. An end to end anastomosis is ideal but feasible in growth well up in the sigmoid even when sufficient mesentery is present to permit easy approximation without tension. One usually finds before the operation is over that sufficient lumen is not present and later the pressure from above may cause a leak. Infection is highly probable and greatly increases the mortality. Here a modified Mikulicz operation is frequently possible and when so is a satisfactory procedure. The tumor must be easily deliverable by means of a long mesentery which is not involved by new growth. The tumor is then excised by cautery and the anastomosed bowel septum is later crushed and sloughed through. The bowel content is then diverted through the lower segment and the colostomy opening often closes spontaneously.

Personally, I prefer a lateral anastomosis anywhere in the intestinal tract when possible. There is less danger of a leak developing from tension upon the suture line. As large an opening between the intestines as is desired can be made. More complete suturing of the approximated bowel can be carried out without fear of constricting the opening and the danger of abdominal contamination perhaps is lessened.

An anastomosis around an inoperable growth

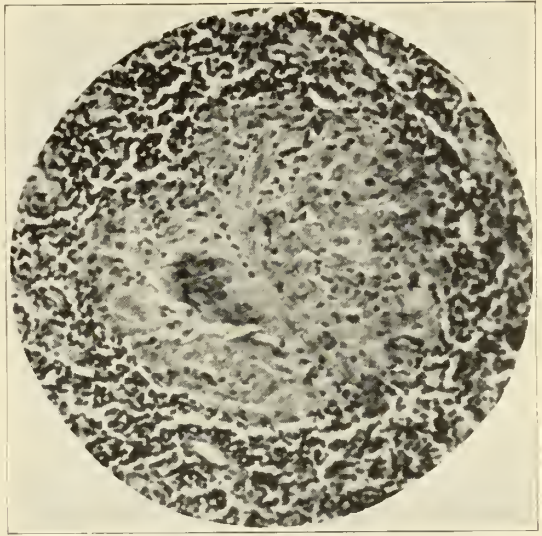


Fig. 4. A higher magnification of one of the tubercles seen in figure 3.

of the cecum, hepatic or splenic flexure is a palliative operation of great merit.

I am greatly indebted to Drs. D. A. Williams, E. C. White and Ira H. Lockwood for the opportunity of caring for the following case and for the valuable support and assistance rendered me throughout. To Drs. Fred Narr and Ensley Johnson I am also indebted for pathological reports and illustrations.

REPORT OF CASE

Married woman, aged 24. Five weeks prior to entering the hospital she was delivered of a normal child by Dr. E. C. White. She had a stormy pregnancy, complaining constantly of nausea, vomiting and abdominal cramps. There was much difficulty during the last months of pregnancy in having a free stool. After the delivery she continued to have nausea, vomiting at intervals and was severely constipated, rarely having a free movement. These complaints gradually increased until she was unable to have a stool and abdominal pain was almost constant. A roentgen ray examination revealed an obstructive lesion slightly below the splenic flexure. The colon was dilated and nothing was observed to pass below the upper descending colon. An examination made in the hospital two days later revealed the barium still in the colon above the obstruction. The abdomen was not distended and no mass could be palpated. There was no tenderness or rigidity. The patient complained of considerable pain and was nauseated but vomited very little. Rectal and vaginal examinations were negative.

Blood pressure 120/80; pulse regular, rate 86. Hemoglobin 65. Red blood count 4,380,000. White count 5,900. Urine 1024, acid; slight trace of albumin; no sugar; microscopical examination negative. Nonprotein nitrogen 29.8. Uric acid 3.94. Sugar 89.6. Chlorides 5.1.

Operation was advised and the patient was referred to me by her attending physician, Dr. D. A. Williams. On December 30, 1928, the abdomen was opened through a left rectus incision and on exploration a small constricting annular growth was

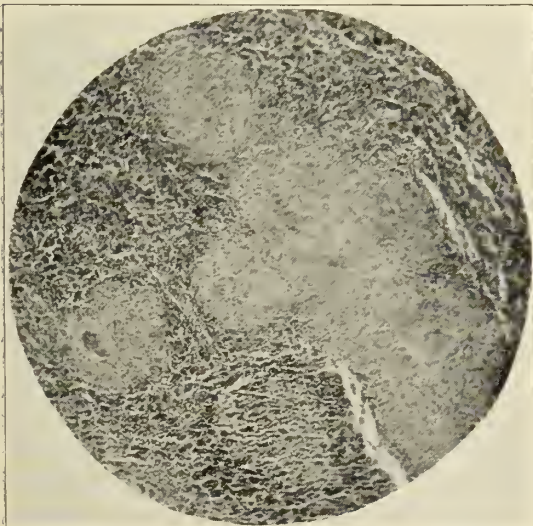


Fig. 3. Lymph node with multiple well defined tubercles.

found just below the splenic flexure completely obstructing the colon.

The proximal colon was moderately dilated. The abdomen was explored for secondary involvement. The liver was smooth, apparently normal, the mesentery was free except for two small glands at its attachment to the bowel. Delivery was quite easily accomplished. Resection was decided upon and was accomplished by cautery division of the bowel between clamps.

The ends of the colon were securely closed by continuous catgut suture the stumps being well invaginated. Lateral anastomosis was performed and made secure by three rows of catgut suture. A small piece of omentum was tacked over the suture line. The abdomen was closed without drainage. Recovery was uneventful. There was no vomiting, no distention, and bowels moved well on the fourth day, and continued without difficulty thereafter. A moderate temperature was present following the operation, ranging up to 101. Ten days after operation she complained of pain in the left leg and tenderness over femoral vein was noted accompanied by a slight swelling of leg. It was evident the condition was that of a phlebitis. This was of short duration and she left the hospital on January 21, 1929, free from symptoms other than a slight swelling of the left leg.

The pathological report by Dr. F. C. Narr, pathologist at the Research Hospital, is that of adenocarcinoma. The microscopical picture follows:

Microscopic examination: Sections of gut show invasion of muscularis and fat mesentery with irregular glands. The epithelium is hypertrophic and hyperchromatic.

On April 8, 1929, she again entered the hospital with symptoms of intestinal obstruction and an exploration revealed a loop of small intestine obstructed by a band of adhesions. The former colonic anastomosis was carefully explored and found to be in excellent condition; no glands were found in the vicinity and the liver was apparently normal.

Again in the summer of 1930, at the time of a cesarean operation the site of the former colonic anastomosis and the liver were examined for evidence of malignant involvement, but none was found.

The patient again entered the hospital March 5, 1931, with symptoms and findings of an intestinal obstruction. At operation March 7 an obstruction was found involving the midportion of the jejunum. There was an adherent angulation of the bowel at this region to the posterior peritoneum with an almost complete constriction of the bowel for a distance of several centimeters. This was fixed well over the preaortic peritoneum. The proximal bowel was distended and contrary to expectation thickened, appearing like parchment paper. There were large glands in the mesentery of the obstructive bowel but none were found elsewhere in the abdomen. Two glands were excised for laboratory study. The liver was smooth and the colonic anastomosis was in good condition. It was inadvisable to free the obstructed adherent small bowel and the proximal and distal limbs were therefore anastomosed and the abdomen closed without drainage. The patient was discharged from the hospital on April 4, 1931, in good condition.

The laboratory report on the glands removed was that of tuberculosis. It reads in part as follows:

Microscopic sections of lymph node show no evidence of malignancy but there are several areas of tuberculosis, endothelial hyperplasia and giant cells.

1016 Professional Building.

THE MANAGEMENT OF ACUTE OTITIS MEDIA AND ITS COMPLICATIONS * 1

JAMES B. COSTEN, M.D.

ST. LOUIS

Permit me to review some of the predisposing factors to acute otitis media.

Adenoids in children, with the mechanical production of stasis of infectious material in the eustachian tube, lead the list of factors in such a large way that the laity themselves frequently diagnose the condition and demand the removal of the adenoids.

Next, we must consider the horizontal position of the tube in infants, its ostium located at the level of the hard palate. The palate incompletely seals the mouth of the tube and as the child usually lies with the head low regurgitation of food offers an easy mechanism for passing irritating stomach contents and infectious material into the tympanic space. In a few of the cases I have cultured foul smelling secretion from an acute otitis of only a few days' duration and found colon bacillus or *Bacillus proteus*.

The nature of the invading organism ranks third as a predisposing factor, the first of which is certainly the invasive class, such as streptococcus and pneumococcus in scarlet fever and pneumonia; second, activation of any of the bacteria already present in the nasopharynx and mouth is a constant hazard, dependent on daily habit, nourishment, economic condition, as follows: chilling of body surface, the story that you and I hear from some patient every day; lack of food and lowering of resistance that goes with half starvation; and, a thing we encounter not infrequently, the production of an otitis media after a dose of vaccine or immunizing antigen. Certain of these have shown themselves to be of value but the hazard lies in giving it when there is an acute condition in the nasal or throat mucosa.

Violently blowing the nose, thus forcing infectious material up the tube is a common history. The same mechanical result follows careless or vigorous washing of the nose with water, salt solution and patented solutions containing irritating aromatics, especially at the onset of acute nasal infection.

Before proceeding with the consideration of various phases of otitis media, I would like to put in a plea for the use of the otoscope, under absolutely sterile precautions, very sharp knives

* Read before the St. Francois-Iron-Madison County Medical Society, Fredericktown, Mo., June 30, 1931.

1. From the Department of Otolaryngology, Washington University School of Medicine.

and short general anesthetic, when incising the drum. Any otoscope is good if the tip length is short and the lumen wide to afford a wide angle for movement of the ear knife. The observance of aseptic procedure is simple and easy, i. e., soaking the tip of the scope and the knife in alcohol before every procedure. Some carry the tip of the knife in a container of alcohol. Any scheme which gives us the assurance of not conveying a secondary infection into an infected ear is worth all the necessary trouble. The use of a very sharp knife I consider a most urgent necessity. To have these knives sharp they must be constantly honed. Think of how uncertain it is to accomplish a good incision with five layers of the drum, of which there are three types of tissue and three circulatory systems, all engorged and boggy, and the direction of swelling governed purely by hard surrounding tissues. The sharpest knife is the safest in the long run because then no great incising effort is necessary to cut through the tissue. Another of the mechanical aspects is the use of general anesthesia. Most of us carry ethyl chloride, chloroform, or ether for incidental use. I think we can all agree that in any patient above 2 years of age, the doctor alone in the home with no trained assistance, it is easier and more efficient to use a short general anesthetic. With access to a hospital the ideal is nitrous oxide or ethylene gas. The patient is still, the doctor gets a more accurate view of the drum, makes a more effective incision.

Bonain's mixture is an old favorite. It is handy and prevents the pain of incision in most cases. However, there is a fair risk that coagulation of the drum tissue with this mixture is a means of scar production later on; and few patients can actually remain still for the incision.

The incision, the nature of which has passed through as many discussions and revisions as the moral code, is at least performed in the posterior half, as wide as possible in a vertical direction. The incision may be linear, v-shaped, angular or curved, and be a good incision if done with a sharp knife. A good aphorism is that leaving the infection inside without drainage is far more injurious to the drum membrane and structures than any number of proper incisions.

Regarding whether to start the knife above and cut downward through the drum or vice versa, we adhere to the former for three reasons:

1. The drum slants away from the line of vision, sometimes even when it is bulging. If we pass the knife into the nearest bulging part, i. e., upper, below Shrapnell's membrane, the

chance of getting a good draining incision before blood and secretion obscure the field is better.

2. An upward incision is more likely to section into the posterior fold of Shrapnell's membrane, where the nerves and vessels to the drum pass in, and scarring here produces the only harm that can come to the drum from incision, i. e., atrophy of the membrane from restriction of blood supply.

3. An upward incision also is likely to fail because of the "wet sack" phenomenon. This simple term describes what happens when the most effective part of the incision is at the bottom. The drum sags and defeats what would otherwise have been a very adequate incision.

The only variation necessary in the choice of site of incision is seen when most of the bulge is in Shrapnell's, anterior or posterior section. Here we are dealing with a suppuration in the attic, which many times has no free connection with the middle ear when inflamed. In this case it is quite harmless to make a horizontal incision in both sections of Shrapnell's in addition to the drum incision.

Consider first the simplest type of otitis media of mild degree; temperature normal or a fraction elevated; drum red, thin, not bulging, and no mastoid tenderness. Most of the management is constitutional, using a saline purge and salicylates or phenacetin by mouth. Five per cent phenol in glycerine is used warm, a few drops hourly in the ear for pain. An astringent mixture may be used nasally every 4 hours; the most effective is 1½ per cent ephedrine in normal saline. If these measures do not relieve the pain completely within a few hours, the condition is not of mild degree and requires prompt incision for drainage.

A frequent example of mild otitis, familiar to us all, is a painful ear, drum red, not thickened or bulging, no fluid seen within, a high temperature and the patient prostrated. Simple measures failing after a few hours' trial, in view of no other findings whatever, with pain and temperature remaining, we incise this drum. No pus or fluid is recovered. Next day the patient shows a remarkable drop of temperature, relief of all symptoms, and never any drainage from the ear. The incident has recently been explained² by isolation of certain anaerobes which find their way into the tympanic space and thrive when the eustachian tube is swollen shut.

Now, assume that the proper thing has been done to effect good drainage—prompt and early incision of the bulging drum. The care

2. Wirth, E.: *Centralbl. f. Bakteriologie*. (Abt. 1) **105**:201 (Jan. 16) 1928.

of most of these cases is in the hands of the mother or a relative. If they are instructed in detail they are capable of just as good routine care as may be given in the hospital, remembering that every detail must be given to them.

Peroxide, boric acid, or corrosive sublimate is the group of chemicals most used in irrigation and every known chemical has been tried in the outer canal. How much access have these to the middle ear? Assuming that they are strong enough as antiseptics and are of the proper specificity for the organism, it is very unlikely that they are able to enter the incision or pass far into the tympanic space, engorged and filled with mucopus as it is. This raises the question of the use of dyes and staining chemicals, and their name is legion, referred to later.

Irrigation of acutely infected ears with warm sterile saline in large volume is a most effective weapon against the extension of the infection. It is available in any household at any time of day or night. It can be prepared and handled in a sterile way by any one of average intelligence. It is solvent enough to remove secretion which may have dried over the incision in the drum. (The parent is cautioned that he is not making an effort to completely "wash" the infection away but that the salt solution is a treatment.) Finally, and I think most important of all, the irrigation effort is a powerful localizing agent, in the same sense that you use a hot moist pack or soak on any infected member before resorting to surgery for drainage. Instead of continuous soaking we resort to frequency and volume of irrigation in the ear. Irrigation is begun 24 hours after the incision, or the same night if the patient wakes with pain. It is used only twice a day, unless pain and temperature increase then it is increased to hourly, one pint of solution in each ear. Bulb irrigation is suggested and the parent carefully told how to keep the bulb sterile in one pan and prepare the solution in another.

Occasionally, reincision of the drum is necessary, even after a good primary incision. Reincision is not usually indicated on successive or second days after previous incision unless the operator feels that his first incision was inadequate. Material behind the drum will find its way out even if the incision is swollen shut if effort at localizing it is being carried out. It takes several days for the drum opening to close over if the original one was good.

The average otitis media will discharge for about ten days to two weeks; those preceded by scarlet fever or measles usually discharge for a week longer. If the ear discharge continues

into the fourth week the twice daily irrigation may be followed to advantage by a few drops of aqueous gentian violet, mercurochrome, pyridium or absolute alcohol. Earlier, these are not so effective and the alcohol is quite painful. Later, the alcohol is tolerated very well.

If the infection extends into the fifth week, the patient not showing septic signs and the discharge not thinning or becoming more mucoid, adenoidectomy is advised. Prompt improvement will show in a day or so or there will be no effect at all. With a creamy, heavy discharge remaining in the fifth to sixth week, even with no pain or temperature, simple mastoidectomy is urgently advised. Such an infection has invariably involved some cells of the attic or of the mastoid bone, becomes a chronic running ear, slowly diminishes the hearing function and is an important focus for pus absorption. Radical mastoidectomy is not necessary in this type of ear.

Some forewarning of mastoid involvement requiring immediate drainage usually occurs from the very onset of the trouble; the drum incision relieves little of the pain, or it returns after a few hours; the patient remains toxic with no change in the temperature curve; tenderness over the mastoid bone is usual but may be absent, especially in middle-aged and elderly people. This is probably due to condensing of bone structure about the cortex with advancing age. Furthermore, a symptom which puts us on our guard, especially in the older patient, is the persistent complaint of dull pain over the eye on the same side, very low or subnormal temperature curve, and all the other signs quiet.

In the young or youthful patient, the indications for mastoidectomy depend very much on his ability to overcome the infection. In children, a good roentgen ray plate shows clearly the extent of cell destruction and is a good barometer indicating when to interfere. In older patients the roentgen ray will show mastoid involvement, if present, but is much influenced by previous effects on the bone and periosteum. Here we may rely much on blood changes, the white count in the ordinary way, and especially change in leukocytes as grouped in the Schilling count, a shift to the left being an important sign that the infection is progressive.

It is as easy to decide on mastoidectomy when the signs present are classic as it is for appendectomy. In the same manner, we have come to consider the operation itself without shock or great risk. We promptly open the mastoid if the roentgen ray confirms, the patient is septic, with a little suspicious neck

stiffness, even though there is no tenderness or edema over the bone externally. In that type of case the basis is the same as getting rid of any other septic focus, by surgical drainage.

The difficult case to decide is the ear infection which apparently subsides or quiets down and drifts along. The patient may go for months and become almost symptom-free, then suddenly open up with the gravest symptoms, bordering on meningitis or septicemia. The organism most frequently found in this case is the *Streptococcus mucosus*, culturally the same as pneumococcus type III. The lesion found is usually a perisinus or extradural abscess without much involvement of cells near the cortex.

Suppose we have followed the case, used prompt surgical drainage, every routine care and the patient assumes the picture of septicemia. The blood culture may be negative or repeatedly reported "no growth." If the temperature curve is typical, the patient taking no food, repeated small transfusion of whole blood, after cross-matching, is safe, is rational, and is the best attack on sepsis. Children take 200 to 300 c.c., adults 300 to 500 c.c., every other day. The main thing is, begin transfusion early.

Again, suppose, in addition to a septic temperature curve, the patient presents some of the signs of pyemia. His temperature rises and falls sharply with chills and sweats. We quickly suspect phlebitis of the lateral sinus or some of its tributary veins. Looking for confirmatory symptoms there is dull constant headache over the affected side, usually but not always there is tenderness along the jugular vein in the neck, there is blurring of the optic disc margins on the same side with papilledema, there is euphoria in the presence of all the septic signs, there may be even at this early time metastases in distal joints, and the Queckenstedt phenomenon may be elicited by the method of Tobey and Ayer.² (With a trocar in the spinal canal to measure the increase in spinal fluid pressure, compression is made on the jugular vein of the affected side, a manometer of 2 mm. bore being used; less than 50 mm. rise is taken as no change in pressure; pressure on the normal or opposite jugular vein elicits a rise of 50 to 100 mm. if the affected vein is blocked.) If simple mastoidectomy has been done, it is again opened up. The jugular is ligated in the neck above the facial vein, and the lateral sinus is laid open and plugged beneath the mastoid wound. In these cases, again, frequent small transfusions of whole blood are the most valuable ally.

2. Tobey, G. L., Jr., and Ayer, James B.: *Arch. Otolaryng.* 2:50-57 (July) 1925.

SUMMARY

1. The red drum without tympanic fluid or bulge is the one that responds to general measures.

2. The bulging drum with tympanic fluid under pressure has the best chance of recovery without incident if incised early under careful aseptic precautions.

3. Frequent irrigation with sterile normal saline is a good localizing and therapeutic agent and can be handled at home, where most ear infections are treated.

4. Simple mastoidectomy is without shock and is promptly to be advised if otitic sepsis is progressive.

5. A residual headache or pain over the eye on the side of the ear infection, even if drainage from the ear has subsided, should be regarded with grave concern, especially in adults or people of advanced age.

6. Frequent, small transfusions of whole blood used early, continuously and late, are of infinite value in any case of severe otitic sepsis.

722 Beaumont Medical Building.

HYPERPYREXIA IN THE TREATMENT OF DEMENTIA PARALYTICA

G. WILSE ROBINSON, JR., M.D.

AND

PAUL A. JOHNSON, M.D.

KANSAS CITY, MO.

Hyperpyrexia is by no means a recently developed method of treatment. The beneficial effects of fever upon some mental cases was noted by Hippocrates and Galen. Rosenblum in 1875 was the first purposely to inoculate patients suffering from a psychosis with febrile producing organisms. Von Jauregg and Wagner in 1887 published a paper discussing the favorable influence of febrile diseases on psychotic patients. In 1889 they first used typhoid, staphylococcic and streptococcic vaccines, but their most encouraging results were obtained later by the use of tuberculin. Von Jauregg introduced malarial inoculation in 1918 as a rational method in the treatment of dementia paralytica. He was convinced that this treatment had considerable value. Various other methods of raising the body temperature in this disease have since been attempted with more or less success. Plaut and Steiner used relapsing fever; Solomon, Berk, Theiler and Clay introduced the use of sodoku fever, and Kunde, Hall and Gerty obtained quite favorable results with typhoid vaccine. Weichbrodt and Jahne in 1919 treated with incubation a series of rabbits having scrotal chancres. Schamberg

used hot baths on a group of rabbits that had been inoculated with the *Spirocheta pallida*. The more recently adopted method of fever therapy has been generalized diathermy. The vacuum tube oscillator may prove to be a further advance but as yet there are no data on its use.

In our attempts to combat dementia paralytica at the present time we seldom restrict our efforts to one mode of attack but usually combine various methods of hyperpyrexia with metallic injections and intraspinal therapy. However, the latter two methods have been discussed many times and we will refer to them only incidentally in this paper.

Because of the rapid retrogression of dementia paralytica and because of the grave consequences of ineffectual treatment we cannot allow ourselves to assume a purely scientific attitude, for we feel that each patient should be given every possible chance. Therefore we combine the newer methods with the tried and accepted modes of treatment. The prognosis is poor in most cases that we see due to procrastination of many physicians before they take heroic measures. Schamberg believes that every patient showing positive spinal fluid signs should have hyperpyrexia therapy, even in the absence of distinct neurological findings of dementia paralytica. Dennie believes that malaria and typhoid are indicated in every case of tertiary syphilis which is resistant to metallic therapy and which presents no contraindications.

These two opinions make us believe that some form of hyperpyrexia should be used on every patient with neurological syphilitic manifestations, no matter how slight they may be. While malaria may seem too heroic and typhoid loses its efficiency after a period of time, diathermy has few contraindications, can be easily controlled, does not lose its ability to produce results, and we believe it to be the treatment of choice in early as well as late stages, as we shall try to show in this paper. We will likewise show that other forms of treatment can be carried on simultaneously.

Progress is slow; these patients are usually under our care for an extended period of time and some patients respond to certain types of therapy which seem to be ineffectual in others. For this reason alone we advise variations in methods and attempt to determine the best type of treatment to fit the individual case. Having established the most effectual form of therapy, a fixation reaction may develop in the organism which renders that method temporarily valueless. Patients sometimes become antagonistic to one form of treatment and, in order to maintain that important factor—cooperation—we

advocate changes that will not jeopardize the patient's progress. Therefore our methods of handling these patients make it difficult to evaluate the various hyperpyrexia methods. However, we shall attempt to discuss each individual method in the light of our own results and from perusal of the literature. At the present time there are three outstanding methods: typhoid vaccine, malaria and generalized diathermy. In addition to these, hot baths, relapsing fever and sodoku fever have been used with more or less satisfactory results. There are other methods but they need not be discussed here as they have been discarded due to their danger, impracticability or lack of therapeutic value.

Malaria has been used longer than the other forms mentioned and has proved to be very satisfactory in our group of cases. The reports in the literature are more than encouraging. Before inoculating the patient he should be tested for quinine sensitivity; the type of malaria of the donor must be definitely determined, tertian malaria being the only accepted form as the two other types are too severe in their reaction. The recipient is inoculated with 3 to 10 c.c. of blood intramuscularly or intravenously. The latter method requires less blood and probably is the method of choice as it shortens the incubation period and increases the likelihood of the development of the disease. With intramuscular inoculation this period will be from seven to sixteen days while chills may develop after intravenous injection as early as the second day; usually, however, five to eight days elapse. The patient should have from twelve to fifteen chills and the following points should be carefully watched and checked at least every other day during the course: The blood pressure, the hemoglobin, the urine, the heart action and the size of the spleen. Patients must not be allowed out of bed if the pulse goes over ninety; temperature should not be allowed to range over 104.5 F. by mouth. The course of the malaria is stopped by the use of quinine. Since we quite frequently allow our patients to approach the danger point our initial dose is fifteen grains four times daily; this we gradually reduce over a period of two weeks and then continue in small doses for a period of two months. Even in the face of these large doses we sometimes have one or two chills after quinine has been given.

There are certain definite contraindications to this form of treatment and malarial inoculation should never be used in the presence of a single contraindication. First, old age. No patient over sixty should be given malaria. Second, diseased cardiovascular system because

malaria affects this system more than any other part of the body. Third, anemia. Fourth, nephritis since malaria severely taxes the kidney. Fifth, general debility and weakness. Sixth, quinine sensitivity.

Our last series covers twenty-five cases treated by this method, 68 per cent of whom were improved; 44 per cent being at work; twenty per cent showed no change; two patients died and one became worse following the treatment. One of our fatal cases was inoculated against our judgment and advice due to the insistence of the relatives. The case was of long standing in an elderly woman who had responded to no other form of therapy and the family felt it should be used as a last resort. Our results follow fairly closely those reported in the literature. Reports of improvement range from 30 to 70 per cent; the mortality percentages range from two to thirty. Space does not allow an analysis of these results.

Typhoid vaccine can be substituted for malaria when the latter is contraindicated, though it occasionally cannot be used when the above conditions are especially severe. Since we produce the individual chill we can control the frequency and the interval and regulate our treatment according to the condition of the patient but we cannot easily control the height of the fever. This form of treatment may prove dangerous in certain patients.

We have discarded intramuscular injections in favor of the intravenous method introduced by Nelson in 1931. This is an advance over the older single dose methods. Twenty-five million organisms are injected, followed in two to three hours by a similar dose. This gives us temperatures ranging as high as 104 F. to 106 F. plus; heretofore our maximum temperatures were seldom over 101 F. We have never used typhoid vaccine alone in the treatment of any form of neurosyphilis and statistics are very limited; we can only say we feel that it has a definite value.

Relapsing fever has some advantages over malaria. The organism is more closely related to the syphilitic spirochete and can be maintained in laboratory animals, but the inconsistent incubation period, uncertainty as to the number of paroxysms, spontaneous cessation of fever and the inability to control other cases, plus the great disadvantage of not being able to obtain strains of sufficient virulence in this country, render this method almost valueless.

Sodoku fever is apparently much to be preferred to relapsing fever because of the higher temperature induced, because of its consistent incubation period and number of paroxysms and because of the specificity of nearsphenam-

ine. Again, it is more satisfactorily maintained in laboratory animals. Malaria cannot be maintained in this way; sodoku fever has not yet come into general use in this country.

Hot baths have the advantage of being more easily controlled than any of the above, both as to the number of treatments and the height of the fever during the individual treatment. But they are very weakening to the patient and, since generalized diathermy is more easily controlled and has none of the disadvantages, we believe this form of treatment will completely supplant baths.

The use of diathermy in this condition was first introduced by Neymann and Osborne in 1931. While sufficient time has not elapsed to standardize the method or to determine relative value, we believe, from our own observation on a small series of cases in which other forms of therapy were either contraindicated or noneffective, that this method is a very valuable adjunct.

The necessary equipment consists of a machine capable of delivering at least four thousand milliamperes over a period of several hours and properly constructed electrodes. These electrodes must be large enough to avoid concentration of the current. They are applied snugly over the anterior and posterior aspects of the trunk and are held in place by a tight fitting laced jacket. The patient is first wrapped in cotton blankets and then in rubber sheeting all of which is finally covered with three or four heavy blankets. This wrapping should not be disturbed until the patient's temperature has returned to normal. The current is turned on and gradually stepped up to the height the individual patient can tolerate. Temperature, pulse and respiration are taken at least every fifteen minutes after the first hour; when the desired temperature is reached the current is gradually stepped down and finally disconnected. If the current is turned off abruptly the temperature will rise for a variable period and complications may develop.

This treatment has fewer contraindications than any other hyperpyrexia method. Aged, debilitated, cardiovascular and renal cases should be closely observed during the treatment. These conditions are distinct contraindications to any other form of fever therapy because the height of the fever cannot be controlled. Perfect control is the great advantage of diathermy over other methods.

As we have previously mentioned, the dangers of this treatment are relatively slight. The most common complication has been electric burns, but this hazard since the newer electrodes have been developed has been almost entirely removed. However, as

may well be judged, the body as a whole is somewhat taxed by the fever. A point of possible danger is the effect upon kidney function. This can be evaluated by careful urine analysis following each treatment. Furthermore, it is necessary to make close observation of the rate and depth of respiration, the circulatory response and the cardiac action. If these are taken into account the fear of complications is practically eliminated.

Our series naturally is small as we have been using this treatment for only about nine months. Nine patients have received this treatment but only three have received it alone. We do not draw any conclusions from this small group. Two cases, however, warrant mention.

REPORT OF CASES

G. A., aged 48, came to us five years ago with the chief complaint of amnesia and ataxia, with pain and numbness in various parts of his body. He received metallic salts but did not tolerate them well; however, he showed enough improvement to return home. He returned a year ago with his symptoms markedly exaggerated.

Physical Examination: Revealed loss of memory and orientation, with poor insight and association. Eye signs, reflexes and sensory changes were typical of moderately advanced taboparesis. *Diagnosis:* Taboparesis. *Treatment:* Modified intraspinal medication was instituted but after the third treatment he had a distressing complication. Typhoid vaccine was used but he could not tolerate temperatures above 102 F., so we were forced to discontinue that treatment. As arsenic and mercury could not be given we were forced to use bismuth alone, which was not sufficient. Several months later we began diathermy and he has had over thirty treatments. *Results:* The symptoms have decreased in severity; insight and orientation have returned; he is walking better and has definitely improved in every respect.

M. C., aged 29, came to us with a chief complaint of restlessness, epileptiform seizures and hallucinations. Onset was a year previous. Examination revealed a typical case of dementia paralytica. We also found that he had a severe grade of chronic nephritis. *Treatment:* Because of the nephritis care was necessary in his treatment. Small doses of neo were first used and tolerated for a short time. After that he was given metaphen. We attempted to carry him through a course of malaria but had to stop after two chills because of his kidneys. He could tolerate an occasional typhoid inoculation. When we started diathermy he received about twenty treatments with very gratifying results. *Results:* Headaches and hallucinations have disappeared, orientation has returned and he is decidedly improved.

There are two schools of thought as to what produces improvement following hyperpyrexia. One believes that the high temperatures destroy the organisms and therefore cause the improvement; the other holds that the proliferation of the cells of the reticulo-endothelial system with resultant phagocytic activity gives the desired effect. We believe that both factors play an important part but that high temperatures are

necessary to produce the maximum results. Schamberg, on a series of rabbits, cured syphilitic lesions with hot baths and a similar series has been run with incubations instead of the baths. Other reports indicate that the speed and efficiency of the treatment depend on the height of the fever. In our own series we found that our best results were obtained in those cases which had the severest chills with resultant high fevers.

On the other hand, Dennie and others have obtained good results with small rises of temperature. It is possible that the high fevers increase the reticulo-endothelial proliferation and this secondary factor is the important one. The fever height may be a gauge as to how much proliferation we are getting in the individual case and is a criterion as to results to be expected. Since Schamberg has shown that temperature alone will be therapeutically active and since the results obtained show clinical improvement following diathermy, we believe that high temperatures without invading organisms will produce the proliferation necessary to give the maximum results.

The prognosis in these cases depends entirely upon how much ganglion cell death has taken place. This is most difficult to gauge. Dementia paralytica is primarily a disease of the blood vessels with secondary exudative formation among the ganglion cells. As nutrition is decreased and the pressure on the ganglion cells increases death of cellular structures occurs. But before death function is decreased and then lost so that the symptoms may be greater than the pathological condition would indicate. If treatment is not started or is not successful cell death soon follows the loss of function and then nothing can be done to return function to that cell. Prognosis, therefore, depends on the extent of cell death that has taken place and, as this cannot be determined during life, we can never be sure of the ultimate results until after some time has elapsed following the treatment. Also, one of those unexplainable remissions may occur and further complicate our picture of the case. While we believe that this condition is usually eventually fatal, hopeless prognoses during the individual attack are never warranted.

SUMMARY

1. No one form of treatment should be rigidly adhered to in private practice.
2. Hyperpyrexia is the type of treatment that gives the best results in dementia paralytica and should be given early before ganglion cell death has become too widespread.
3. Of all hyperpyrexemic methods, diathermy is the most easily controlled, has fewer compli-

cations, can be used on cases where all other forms of treatment are contraindicated and is as efficient as any other method.

4. A hopeless prognosis in the individual case should never be given; heroic methods early may help cases that are seemingly hopeless.

1432 Professional Bldg.

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ACHLORHYDRIA*

ELLIS W. WILLHELMY, M.D.

KANSAS CITY, MO.

The terms "achlorhydria" and "achylia gastrica" are used more or less synonymously but since either term may convey a different meaning to the reader, it seems advisable before going into a discussion of the subject to have the writer's conception of the term definitely outlined.

Thirty-eight years ago Einhorn advanced the theory of the absence of gastric secretion as a functional condition in which there was neither free HCl nor ferment secreted and designated this clinical entity as achylia gastrica. Since then we have learned that the absolute absence of both ferment and free HCl is a very rare condition although the absence of free HCl alone is quite common. Some investigators have been inclined to group subacidities as achlorhydria, while others have based their terminology on an arbitrary amount of combined acid secreted in the gastric contents, i. e., cases showing an absence of free HCl and a certain percentage of combined acid they say

are achlorhydria, while if the percentage of combined acid is under a certain arbitrary figure they are cases of achylia gastrica. This seems obviously a rather useless idea as it only tends to confuse the nomenclature and, although of no particular interest or value in the absence of free HCl, it takes in no consideration of the ferment secretion.

Physiologists more or less universally use the term achlorhydria to mean absence of free HCl and achylia gastrica to mean the absence of both ferment and free HCl. It is this latter viewpoint that we have taken in the study of these cases.

Although the diagnosis of achylia gastrica vera is frequently seen on the records in many of our large hospitals the condition is and always should be considered only as a symptomatic entity, usually associated with or as a forerunner of other organic or functional diseases even though the condition is encountered many times as the only definite finding.

The theories and hypotheses advanced in attempting to explain and elucidate the underlying mechanism of gastric secretion open up too vast and technical a discussion to come within the scope of this paper. Suffice it to say that in all probability the gastric secretory mechanism is activated as suggested by Ivy through several phases, namely, direct stimuli by mechanical distention of the stomach; some chemical action on or via the gastric mucosa by certain substances; reflex nervous mechanisms through the cerebral cortex, thalamus, midbrain and medulla, or chemical action on or via the intestinal mucosa.

Bennett and Ryle working with medical students showed that 4 per cent of normal people have achlorhydria. Davies and James demonstrated the dysfunction in 32 per cent of healthy adults over age 60 and the percentage in protracted illness and debilitated cases is certainly much higher.

Practically the only real contribution to the study of this dysfunction in many years has been the work with histamine, although the injection of neutral red as a diagnostic procedure in achlorhydria has received very favorable comment in some sections because it is much less toxic than histamine but does not possess the glandular stimulating qualities of the latter drug.

In our experience, the injection of .25 mg. of histamine subcutaneously has proved the best diagnostic aid in the differentiation of true achlorhydria. Some authors advise larger doses of the drug, and in many cases we believe it could be given with impunity; however, Gompertz and Cohen in recent work have shown that the above dosage is practically al-

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ways sufficient; certainly patients who receive larger amounts should be carefully selected, as severe reactions are likely to be encountered in hyperthyroid and hypersensitive cases.

The secretions of the stomach are evidently not absolutely necessary for the immediate maintenance of life. Dennig, Hartman, Hurst and others have reported total gastrectomy on patients who lived from one to ten years before developing a severe anemia. Apparently in these cases the intestinal tract with the aid of the accessory digestive organs took on the major stomach functions to a large extent.

In all probability, achlorhydria per se causes no symptoms, but the accompanying functional digestive disturbances cause a chain of numerable and variable complaints. Headache, eructation of gas, constipation, excessive bloating, dull aching epigastric pains before, immediately after or between meals is the most frequent story one encounters in the histories of these cases. In our experience, intermittent diarrhea has been one of the least frequent complaints and in only a small percentage of the cases can a history of this condition be elicited even on careful questioning; but chronic constipation is almost a constant symptom. If the acid chyme coming in contact with the duodenal mucosa is necessary to stimulate the pancreatic and biliary flow, a natural assumption would be that achlorhydria should cause as much if not more intestinal than stomach distress and in questioning these patients this is brought out very well as practically all of them complain of excessive flatus, bloating and constipation more than of any of the other symptoms.

This study has been based on 100 successive cases of achlorhydria. No attempt has been made to select them. They were taken in the order in which it was discovered by a routine fractional gastric analysis that they demonstrated this dysfunction. These analyses were made of cases of stomach complaint or when an anemia was present.

Although most cases of achlorhydria have increased peristaltic action and a patent pylorus, three cases gave such a typical history of vomiting undigested foods twenty-four to forty-eight hours after a meal that we were led to suspect esophageal diverticuli until subsequent fluoroscopic and gastric examination proved otherwise.

The frequency with which achlorhydria is encountered in pernicious anemia, gallbladder disease, rheumatoid arthritis and carcinoma of the stomach has long been established, and the incidence of these diseases in this series composes the great majority of the cases studied, although as stated previously there was no selection.

The method of choice has been the usual routine procedure of placing a Rehfuß tube in the stomach after a fourteen-hour fast and withdrawing a fasting specimen; then giving an Ewald meal and withdrawing fifteen-minute specimens for one hour. In most of the cases in which histamine was used the drug was given at the end of the hour following the meal and fifteen-minute specimens withdrawn thereafter. It is possible that some cases with a latent secretory period might have shown free HCl during the second hour without the stimulation but the percentage would have been very small; in either event it does not make any particular difference in our final deductions. In some cases, when time permitted or when there was considerable retching or salivation, the patient was asked to return the next day and specimens were withdrawn following only an injection of histamine.

Thirty-two of our cases were pernicious anemia. Twenty-one of these were given the histamine injection and fifteen-minute specimens withdrawn for one hour thereafter but free acid was not found in any case. All the pernicious anemia patients had been taking liver extract for periods of from six months to two years but none showed free acid in the gastric secretion although frequent analyses were made throughout the treatment of each one. The absence of free acid after the use of histamine and adequate liver therapy demonstrates clearly the complete atrophy or permanent loss of function of the gastric glands in this disease.

Eleven cases were classified as impending pernicious anemia. This diagnosis was based largely upon the finding of a true achlorhydria accompanied by other symptoms, such as numbness and tingling of the hands and feet, slight atrophy of the mucosa of the tongue, lassitude and malaise, with no blood changes except slight increase in size and capacity of red blood cell. Six of these cases were placed under this classification before the advent of the liver treatment and the follow-up was interesting in that four cases subsequently developed glossitis and a typical Addisonian anemia. We were not able to keep in touch with the other two cases except during the first year following the diagnosis, but at the end of that time neither of them had developed anemia. The other five cases in this group were placed on the dietary therapy of Murphy and Minot and up to the present time only one has developed anemia and it is not typical.

Approximately 60 per cent of all the cases with the exception of the malignancies and primary anemias showed some free acid in the gastric secretion following the histamine injection.

tion. Therefore it is obvious that many cases showing no acid on a test meal are not true atrophies but merely cases of deficient glandular function. Whether this is due to lack of stimulation or is brought about through an inhibitory mechanism or both is difficult to determine; in either event, the fact remains that these glands will usually respond to stimulation and also will show considerable improvement in function as the associated illness improves. I suspect that a good majority of the other 40 per cent would also have shown some free acid secretion if we had been able to do away with the other common neutralizing factors, such as the swallowing of saliva and the regurgitation into the stomach of the duodenal contents with its alkaline secretions from the biliary and pancreatic tracts. Fewer of the biliary cases responded to histamine than any of the other groups with the exception of those due to organic lesions.

It was interesting to notice in this study the number of cases of chronic skin trouble that would show a subacidity on gastric analysis. Eighty per cent of all the chronic skin cases we have had occasion to study have shown a low percentage of free acid, most of them averaging between 4 and 16 per cent. Whether or not this plays any primary role in the skin trouble is merely speculative on our part but having encountered it in such a large percentage we are inclined to feel that there must be some relationship between the two. We have also found a high percentage of these hypo-acidities in chronic and intermittent cases of urticaria, angioneurotic edema, psoriasis and perennial asthma. In fact, it has been of such frequent occurrence that we now do a routine gastric analysis on all chronic cases of this type.

The question of anemia in cases of achlorhydria being due to growth of hemolytic bacteria in the constantly alkaline medium of the duodenum is a controversy that we are not prepared nor do we wish to enter. Borgbjaer and Lathup have reported finding some degree of anemia in 50 per cent of achlorhydrias, but the incidence of secondary anemia in this series was 18 per cent exclusive of organic groups.

The treatment of achlorhydria is obviously dependent largely upon the accompanying malady. It has been our practice to place all of our cases irrespective of accompanying disease on moderate doses of dilute HCl, two or three c.c. well diluted by water with the meals. Some patients complained of a burning sensation in the epigastrium with this quantity and in those cases the amount was gradually reduced to a satisfactory dosage. The great majority of the cases responded remarkably well to this dosage and, except the true organic

cases, most patients lost the greater part of their symptomatology within the first week or ten days of treatment. Seventy-five per cent of these patients had been placed on alkalies at some previous time during their illness and, as would be expected, the symptomatology merely became more pronounced and the alkalies were soon discontinued.

The use of hydrochloric acid in many of these cases with chronic skin disease not only brought about a marked improvement in the gastro-intestinal symptoms but the cutaneous lesions became quiescent for longer intervals than at any period in the past history of the patient's disease.

SUMMARY AND CONCLUSIONS

Although many people have achlorhydria with no symptoms, it is a clinical entity that often thrusts its disagreeable symptomatology into diseases of any specialty and keeping it in mind may be of considerable aid in giving symptomatic relief while clearing up a constitutional or local disorder.

In this study of achlorhydria, twenty-one cases of pernicious anemia demonstrated this finding after adequate liver therapy and histamine stimulation.

The majority of achlorhydrias not associated with organic lesions of the stomach or with pernicious anemia will respond to histamine stimulation thus demonstrating the inactivity of the glands rather than atrophy or permanent loss of function.

The possibility of diagnosing pernicious anemia before the development of the blood picture is suggested.

A chain of vague and variable intestinal and stomach symptoms should lead to a suspicion of achlorhydria with acid therapy rather than hyperchlorhydria and alkalies.

A great majority of the cases of perennial asthma, chronic urticaria, acne rosacea and other forms of chronic skin disease demonstrate a low percentage of free acid in the gastric secretion and many receive material benefit on the administration of dilute HCl in moderate doses.

820 Professional Building.

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ETIOLOGICAL INCIDENCE OF ORGANIC HEART DISEASE*

L. H. FUSON, M.D.

ST. JOSEPH, MO.

Two thousand two hundred and fifty consecutive general case records of patients seen in private office and hospital practice by myself have been studied for the etiological incidence of organic heart disease. No case was included that did not have a complete history, physical examination and routine laboratory investigation. Electrocardiograms, seven-foot plates and postmortem examinations were made in relatively few. All were seen during the years from 1924 to 1928, inclusive. Duration of observation of cases varied from one observation to approximately four years. The general type of patients was that usually seen by an internist and consequently includes very few of the pediatric age. Three hundred and thirty-five cases, or 14.8 per cent of 2250 were found with signs or symptoms, or signs and symptoms of organic heart disease. Many of the 335 cases consulted me for other trouble and heart disease was found in the course of examination. As nearly as was possible, every patient who gave findings definite for organic heart disease has been included. This study shows an incidence of organic heart disease in this class of patients to be 14.8 per cent. This figure should be somewhat higher as no doubt there were in the 2250 case records a few cases of heart disease with the physical signs and symptoms not sufficiently marked to warrant that diagnosis. Had electrocardiograms and seven-foot plates been made routinely I believe the incidence of heart disease would have been somewhat more than 14.8 per cent. The comparative incidence of heart disease with that of other diseases is shown when I state that in this series of 2250 general cases, diabetes mellitus occurred 103 times (4.5 per cent), syphilis occurred 105 times (4.6 per cent), hypertension occurred 238 times (10.5 per cent), hyperthyroidism occurred 45 times (2 per cent).

Diagnosis of chronic cholecystitis was made 77 times (3.4 per cent). Heart disease in some form was the diagnosis oftener than any other in this series. In a recent publication White¹ reviewed the mortality statistics in Massachusetts. He showed that while the mortality rate had fallen from 2.15 per cent in 1875 to 1.23 per cent in 1925, heart disease mortality had risen from .119 per cent in 1910 to .208 per cent in 1925. White believes this increase in mortality is in part due to an actual increase in cases of heart disease. As a cause of death heart disease leads the list. Cohn² estimates that 26 out of every 100,000 people in the United States have organic heart disease.

Why heart disease is increasing and what measures may be taken to prevent its occurrence lead one to the consideration of etiology. The clinician in handling a case of organic heart disease is interested first in the factors which have caused or contributed to the deviation from the normal. Therapy and prognosis require this. Just what happens to a heart from birth on throughout its life is often difficult to ascertain since such information must come from observations limited to a very small portion of its life, frequently a single observation or at most only a few. Whether observed in early, middle, moderately advanced or end stage, one must attempt to build in the other stages of its life. A careful history and examination usually but not always supply sufficient facts if well interpreted to build out its past and future. Our present knowledge recognizes with certainty many agencies as common causes of heart pathology, namely, acute rheumatic fever (including chorea and tonsillitis), arteriosclerosis, hypertension, goiter, syphilis, diphtheria, bacterial endocarditis and congenital malformations. There is evidence of less definite other agencies such as emphysema, toxemias of infection, metabolic disturbances and chronic anemias. Frequent association of chronic cholecystitis and fibroid of the uterus with heart disease suggest a strong relationship which future studies may clarify. Attempt has been made in this series to consider only those etiological agents whose relationship to heart disease is definite. The classification used is similar to that of White³ and that recommended by the American Heart Association.⁴ Each case in this series has been carefully searched for the cause of the heart damage and grouped under the etiological agent and those in which no definite etiological factor was found have been grouped as unclassified. To avoid as much as possible any misunderstanding and to set down my basis for this etiological grouping some explanation is necessary as to characteristics of each group.

* Read before the Buchanan County Medical Society, St. Joseph, February, 1929.

ACUTE RHEUMATIC FEVER AND HEART DISEASE

Acute rheumatic fever (including chorea and acute tonsillitis) is complicated with associated heart disease most frequently. Variations of from 50 to 75 per cent are shown in series reports. This is the common cause of heart disease under age 40. Mitral stenosis is regarded by some recent writers as pathognomonic of rheumatic heart disease. This statement does not however seem in accord with all cardiologists. Boas⁵ in a series of 183 cases of mitral stenosis found over one fourth to be over 50 years of age. Cabot⁶ in a series of 200 cases found 23 per cent over age 50. Somway⁷ in a series of 196 cases of mitral stenosis found 10 per cent over 60 years of age. These reports offer considerable evidence that mitral stenosis is not rare in advanced age and sufficiently common in occurrence to indicate that some of them are due to atherosclerosis. It seems to me a more conservative statement would be, that mitral stenosis under age 40 is pathognomonic of rheumatic heart disease. Chronic valvular disease under age 40 is almost always rheumatic when such infrequent causes as bacterial endocarditis, syphilis and congenital malformations have been eliminated. Now 15 to 25 per cent of rheumatic heart disease does not have murmurs and is shown to be rheumatic by a positive rheumatic history and absence of other causes. Many rheumatic hearts give no history of acute rheumatic fever or chorea; they may show only a history of tonsillitis. This by no means indicates that some rheumatic illnesses, such as acute rheumatic fever, chorea or tonsillitis, did not exist. It is a frequent occurrence to see a child regarded by the parents as being just languid or as suffering with growing pains and at the same time have a mild attack of rheumatic endocarditis. After a few weeks the child seems back to normal and the family does not know that rheumatic infection had existed. Casual examination of the child's heart years later may reveal a valve lesion and serve notice to the parents to their surprise that the child has heart disease. In fact many of these cases are so mild that no clinical observation would justify a positive opinion during the acute stage. It may be necessary to check up the heart for a murmur at a later date to make a positive diagnosis. Therefore in searching for a history of rheumatic infection one must remember that it may have been present and never noted by the patient or family.

BACTERIAL ENDOCARDITIS AND HEART DISEASE

This is a rare condition and is easily diagnosed. The disease is invariably fatal, runs a rapid course, is associated with infarcts in

various parts of the body from thrombi originating on the heart valves. Like rheumatic endocarditis, it produces heart murmurs. The *Streptococcus hemolyticus* or *viridans* can be grown from the blood stream whereas in acute rheumatic endocarditis such organisms are not readily found in the blood culture. Cultures are usually sterile with ordinary culture media. A common occurrence is a bacterial endocarditis engrafted on an old rheumatic endocarditis. Most statistics seem to show that a heart valve previously damaged is especially susceptible to a bacterial endocarditis.

SYPHILIS AND HEART DISEASE

Syphilitic heart disease is syphilis of the first part of the aorta. It promotes interference with the circulation through the coronary orifices or aortic dilatation with insufficiency. Recent careful studies by such pathologists as Clawson⁸ and Jones⁹ show that syphilis of the heart itself is rare. A pure aortic regurgitation with no other valve lesion we were once told was universally syphilitic; we know now that many of these are rheumatic and arteriosclerotic. Clinical signs of aortic disease and a positive Wassermann make the diagnosis of syphilitic heart disease. These patients present themselves late in the course of the disease, rarely being found under age 40.

THYROID AND HEART DISEASE

It is well known that tachycardia is one of the four cardinal signs of hyperthyroidism, but this tachycardia does not mean organic heart disease. Whether hyperthyroidism alone can eventually produce organic heart disease is apparently an undecided question. Hurxthal¹⁰ reports a series of cases of heart failure in hyperthyroidism and concludes that if heart failure occurs in hyperthyroidism it is usually due to the hyperthyroidism acting on a previously damaged heart. He found 140 cases of heart disease in his series of 500 cases of hyperthyroidism. McMahon¹¹ reports 20 to 35 per cent of hyperthyroidism cases had organic heart lesions, manifested by cardiac enlargement, auricular fibrillation and cardiac failure. Systolic murmurs due to dilatation are not rare. Most investigators report that heart failure in hyperthyroidism occurs after age 45 and interpret this to mean that heart damage is hyperthyroidism plus some other etiological factor, such as arteriosclerosis or hypertension.

HYPERTENSION AND HEART DISEASE

Continued hypertension produces increase in the size of the heart and eventually ends in heart failure in a very large percentage of cases. Murmurs are not present except as re-

sult of existing rheumatic heart disease or from functional cause. Hypertension itself does not cause organic murmurs. An hypertrophied heart associated with hypertension or with evidence of previous hypertension whether symptomatic or not, I have included as heart disease. Hypertrophy without cardiac failure symptoms although a compensatory measure is nevertheless a response to an abnormal mechanism and is the same disease that we encounter in cardiac failure, differing only in that it is observed in an earlier stage. Upon this basis, the determination of the presence of cardiac hypertrophy largely decides whether a case of hypertension is or is not a case of heart disease. It is here that the method of examination may result in a wide variation. In most of my cases this fact was determined by percussion. Seven-foot plates were made in several cases. In this study there were 238 cases of hypertension and if roentgen ray cardiograms had been made routinely I feel that perhaps a few more cases not included in this study would have been detected. While the method of percussion is very satisfactory in most cases it becomes inadequate in the borderline type. It is not within the scope of this paper to discuss the cardiogram as an aid in heart diagnosis but mention should be made of its value not only in differentiating the normal from the abnormal but also in showing information of etiologic value. Roentgenologists speak of various types of heart enlargement—the arteriosclerotic, the hypertensive and the various rheumatic types—as having characteristic shadows.

ARTERIOSCLEROSIS AND HEART DISEASE

Arteriosclerosis is a very common cause of organic heart disease. Willis¹⁰ in a series of 330 deaths from heart disease found at autopsy that 25 per cent was from arteriosclerosis and another 8 per cent from myocardial infarction which bring his frequency of coronary sclerosis to 33 per cent. Until recently, not much attention had been paid to coronary artery sclerosis as an entity disease. Studies correlating clinical findings with autopsy findings have given us clinical pictures for this condition but they are not always sharply defined so that the condition may certainly be recognized clinically. It is a disease above age 40 and more common in males than in females. Nathanson¹² reports the proportion of males to females as 3 to 1. The heart may or may not be hypertrophied. If hypertrophied there is usually an associated hypertension. Murmurs are relatively rare and are due either to atheromatous changes in the valves or more commonly are relative from dilatation. The symptoms are sometimes very obscure with no evidence of congestive heart

failure. Nathanson divides them according to symptoms into two groups, the one without and the other with congestive cardiac failure type of symptoms. In the former the general condition and physical findings may seem good, the only symptom being attacks of heaviness or retrosternal distress, palpitation or breathlessness. These symptoms are more apt to be periodical instead of continuous and often independent of effort. This is the type that may pass a life insurance examination with nothing to arouse the examiner's suspicion of disease and promptly go to pieces with cardiac failure. A considerable percentage of sudden deaths from heart disease is of this type. Symptoms of coronary occlusion speak for coronary sclerosis. In the group with congestive heart failure symptoms the heart damage is readily indicated. While in the former group there may be little or nothing to arouse suspicion of heart disease, thickening of peripheral arteries, diseased retinal vessels, arteriosclerotic type of nephritis, arteriosclerotic type of diabetes, or cerebral artery accident, may be corroborating evidence of coronary sclerosis. However, it must not be forgotten that arteriosclerosis may exist in one part and not in another. Electrocardiograms will show abnormal ventricular complexes in approximately 50 per cent of these cases which may clinically seem to have no heart damage.

DIPHTHERIA AND HEART DISEASE

Diphtheria toxin by its toxic effect on the myocardium is an occasional cause of heart disease. This, I believe, is not a true myocarditis; that is, bacteria are not actually localized in the heart with exudative reaction. It is a degenerative change, such as granular or hyaline change, and if not fatal in the acute stage usually repairs with little after pathological sequelae.

SCARLET FEVER, CONGENITAL MALFORMATIONS AND HEART DISEASE

Scarlet fever and congenital malformations for the sake of completeness are merely mentioned as occasional causes of organic heart disease. In this series of cases none were encountered.

OTHER LESS DEFINITE CAUSES OF HEART DISEASE

Toxic factors less well understood, such as anemias, gallbladder infections, influenza, and uterine fibroids are more than suggestive causes of heart damage. Definiteness of their relationship to heart disease is lacking and needs further investigation. Chronic bronchial asthma, pulmonary emphysema and other conditions with lung fibrosis are recognized as causes

of heart failure. In my 2250 cases I believe there are 3 such cases; however, the heart damage was somewhat questionable and for that reason they have not been included in the series of organic heart disease. Hypothyroidism in myxedema has been reported with evidence of its producing heart failure. I have not recognized any such cases in this series.

In reporting the etiological factor of heart disease many cases are encountered in which more than one of the agents mentioned are at

Table 1. *Etiological Incidence of Organic Heart Disease in a Series of 335 Cases*

	Number of Cases	Per Cent
Rheumatic	60	17.6
Rheumatic and hypertensive.....	11	3.
Rheumatic and arteriosclerotic.....	5	1.5
Rheumatic, hypertensive and arteriosclerotic..	5	1.5
Rheumatic and hyperthyroid.....	2	.6
Acute rheumatic endocarditis.....	19	6.
Total rheumatic plus complications.....	102	29.8
Arteriosclerosis alone	46	13.7
Arteriosclerotic and hypertensive	97	28.9
Arteriosclerotic, hyperthyroid and hypertensive	2	.6
Arteriosclerotic and rheumatic.....	5	1.5
Arteriosclerotic, rheumatic and hypertensive..	5	1.5
Arteriosclerotic, syphilitic and hypertension..	2	.6
Arteriosclerotic and syphilitic.....	3	.9
Total arteriosclerosis plus complications.....	160	47.4
Hypertension alone	52	15.5
Hypertensive and arteriosclerotic.....	97	28.9
Hypertensive and thyroid.....	4	1.2
Hypertensive, hyperthyroid and arteriosclerotic	2	.6
Hypertensive and rheumatic.....	11	3.
Hypertensive, rheumatic and arteriosclerotic..	5	1.5
Hypertensive and syphilitic.....	1	.3
Hypertensive, syphilitic and arteriosclerotic...	2	.6
Total hypertensive plus all complications.....	174	51.3
Syphilitic alone	3	.9
Syphilitic and hypertensive.....	1	.3
Syphilitic, hypertensive and arteriosclerotic...	2	.6
Syphilitic and arteriosclerotic.....	3	.9
Total syphilitic plus all complications.....	9	2.7
Hyperthyroid alone	4	1.2
Hyperthyroid and hypertensive.....	4	1.2
Hyperthyroid, hypertensive and arteriosclerotic	2	.6
Hyperthyroid and rheumatic.....	2	.6
Total hyperthyroid plus all complications....	12	3.2
Bacterial endocarditis	2	.6
Angina pectoris	2	.6
Angina pectoris plus other complications.....	28	8.3
Unclassified	15	4.

work and it is often quite impossible clinically to recognize the individual part played by each of the coexistent causes. Rheumatism alone is the etiologic factor in 23.6 per cent (table 1) of this series of cases but that figure does not represent the total rheumatic percentage of heart disease. There were in the series 22 other cases with rheumatism plus one or more other factors as in part the cause of the heart lesions. Considering rheumatic heart damage in the 22 additional cases increases the incidence of rheumatic heart disease to approxi-

mately 29.8 per cent. A definite figure cannot be stated. From these figures one can say that the incidence of rheumatic heart disease is between 23.6 per cent and 29.8 per cent. The percentage of rheumatic heart disease here mentioned needs some correction. As already stated, this group of cases contains only a few of pediatric age which if proportionately represented would materially increase the incidence of heart disease of the rheumatic type. Such a figure would, I feel, represent the community incidence. By the same calculation it is found that arteriosclerotic heart disease falls between 13.7 per cent and 47.4 per cent. Hypertensive heart disease falls between 15.5 per cent and 51.3 per cent. Syphilitic heart disease occurred in 2.7 per cent and thyroid heart damage occurred in 3.2 per cent. In these calculations it is seen that the per cent of arteriosclerotic and hypertensive heart disease is some figure between the wide limits of 13.7 per cent and 47.4 per cent for arteriosclerosis and 15.5 per cent and 51.3 per cent for hypertension. This is so because these types of heart disease occur at the higher and overlapping age levels in which more than one etiological factor is coexistent and makes it impossible, clinically, to estimate the integral value of each factor separately. When we consider hypertension and arteriosclerosis together as the etiological factors of heart disease of senescence we find that they cause 58.5 per cent of heart disease and, furthermore, when we consider the cases of hypertension and arteriosclerosis with other coexistent causes it is evident that hypertension and arteriosclerosis are causes of heart disease with a figure above 58.5 per cent and not above 68 per cent in this series. It is interesting to know that approximately 6 or 7 of every 10 cases of organic heart disease are etiologically arteriosclerotic or hypertensive or, in other words, heart disease of senescence; 2 or 3 of every 10 cases of heart disease are of rheumatic etiology; 3 of every 100 cases have clinically syphilis of the aorta; 3.2 per cent of every 100 cases of organic heart disease will have heart damage from hyperthyroidism.

SEX AND HEART DISEASE

In this series it is interesting to note that the total number of males is 172 and females 163, almost equally divided (table 2). It is seen that females predominate in the rheumatic, thyroid and hypertension classes. There are 25 males and 34 females in the cases with rheumatic etiology, 21 males and 31 females in the hypertension class, and in the hyperthyroid hearts there are 2 males and 10 females. Males predominate in the syphilitic and arteriosclerotic type.

Table 2. Sex and Age Groups

	Male	Female	1 to 10	10 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to +	Average age	Angina
Rheumatism	26	34	..	6	18	20	12	3	1	..	33.2	1
Rheumatism and hypertension.....	5	6	..	1	..	2	3	4	1	..	45.6	1
Rheumatism and arteriosclerosis.....	3	2	..	..	..	..	3	2	..	..	60.8	..
Rheumatism, arteriosclerosis and hypertension.....	2	3	..	..	..	..	2	1	2	..	64.8	..
Rheumatism and thyroid.....	..	2	..	..	..	2	..	..	..	..	41.5	..
Acute rheumatism and endocarditis.....	7	12	4	5	8	2	..	..	..	..	19.6	..
Arteriosclerosis	36	10	..	..	..	..	1	6	26	13	65.	12
Arteriosclerosis and hypertension.....	50	47	..	1	..	2	3	24	34	33	63.5	9
Arteriosclerosis, thyroid and hypertension.....	..	2	..	..	..	..	1	..	..	1	77.	..
Arteriosclerosis, syphilis and hypertension.....	2	..	..	..	..	..	2	..	..	..	54.5	1
Arteriosclerosis and syphilis.....	3	..	..	..	..	..	3	..	..	..	54.6	..
Hypertension	21	31	1	2	2	4	14	19	10	..	48.	1
Hypertension and thyroid.....	..	4	..	..	1	..	..	2	1	..	51.2	..
Hypertension and syphilis.....	..	1	..	..	..	..	1	..	..	..	50.	..
Syphilis	3	..	..	..	..	2	1	..	..	..	43.6	..
Thyroid	2	2	..	..	1	..	2	1	..	..	41.7	1
Bacterial endocarditis .....	..	2	..	..	1	..	1	..	..	..	35.	..
Angina pectoris	2	..	..	..	..	..	2	..	..	..	43.5	2
Congenital .....	..	..	..	..	..	..	..	..	..	..	..	..
Emphysema .....	..	..	..	..	..	..	..	..	..	..	..	..
Unclassified	10	5	..	..	1	2	7	5	2	..	47.	..
Total.....	172	163	5	15	32	32	50	75	78	49	..	28

AGE AND HEART DISEASE (TABLE 2)

There are in the first decade 5 cases, second decade 15, third decade 32, fourth decade 32, fifth decade 50, sixth decade 75, seventh decade 78, and eighth decade 49. Using age 40 as a dividing line there are 84 cases below this age, or 25 per cent: one fourth of the cases of heart disease when first seen were under 40. White and Jones¹⁴ in a series of 3000 cases of heart disease report 40 per cent under age 40. They included functional heart disease in their study which accounts for the higher figure. In speaking of the age of cardiac deaths, Halsey¹⁵ finds in New York State that only 10 per cent occur under age 45. Of the 84 cases under age 40, 63 were rheumatic, 9 were hypertensive, 3 were arteriosclerotic and hypertensive, one was bacterial endocarditis and 3 were unclassified. Approximately 75 per cent were rheumatic. Cohn² found in a study of 2114 cases of chronic valvular disease that 75.41 per cent occurred under age 40. Since most cases of valvular heart disease under age 40 are rheumatic it is seen that my findings accord with his. The hypertensive cases under age 40 were secondary to chronic glomerular nephritis. The average age of patients with arteriosclerotic heart disease uncomplicated with other causes was 65 years; with hypertension 48 years; with arteriosclerosis and associated hypertension 63.5 years, almost the same age as the cases of uncomplicated arteriosclerosis. It seems that the age for arteriosclerosis is 17 years higher than for hypertension. It is probable that the uncomplicated hypertensions that survive some accident incident to hypertension through the 17-year period will develop arteriosclerosis. All syphilitic cases were over age 40 and under

age 60. Ages of heart disease from thyroid damage were third decade 2, fifth decade 5, sixth decade 3, seventh and eighth decades each one. These figures are in accord with those of other investigators. Here are 12 cases of heart damage from hyperthyroidism. The diagnosis of hyperthyroidism was made in 45 cases. Approximately 25 per cent showed heart damage. McMahon¹¹ found organic heart disease in 20 to 35 per cent of hyperthyroids. Dameshek gives a figure of 28.5 per cent.

ANGINA PECTORIS AND HEART DISEASE

Angina pectoris is shown to have occurred in a total of 28 cases, 22 of which were in arteriosclerotic heart disease, one in rheumatic heart disease, one in rheumatic and hypertensive heart disease, one in hypertensive heart disease, one in thyroid heart disease and 2 cases in which there was no obvious cause, the cases showing 'only an angina symptom-complex; 78.6 per cent of cases of angina pectoris were associated with arteriosclerotic heart disease (table 2).

HEART MURMURS

Heart murmurs are classified as functional and organic. In a study of organic heart disease it might be thought that only organic murmurs should be considered. One here encounters considerable difficulty and I must confess that I am not always able to differentiate functional and organic murmurs. In a decompensated heart, a loud systolic murmur at the apex may be relative from a spread of the mitral ring and I know of but one method of correctly differentiating it from a true organic murmur with actual organic disease of the mitral valve. If this heart be followed through its decompensation stage into restoration of

Table 3. Incidence of Heart Murmurs in Three Hundred Thirty-Five Cases of Organic Heart Disease

	Mitral Insufficiency	Mitral Stenosis	Mitral Insufficiency and Stenosis	Aortic Insufficiency	Aortic and Mitral Insufficiency	Aortic Insufficiency, Stenosis and Mitral Insufficiency and Stenosis	Aortic Insufficiency and Mitral Stenosis	Total
Rheumatism	22	6	12	..	7	2	2	51
Rheumatism and hypertension	5	..	..	..	1	..	..	6
Rheumatism, hypertension and arteriosclerosis	4	..	..	..	..	..	..	4
Rheumatism and arteriosclerosis	2	..	..	1	..	..	..	3
Rheumatism and endocarditis	12	..	2	..	2	1	..	17
Arteriosclerosis	6	..	..	..	..	..	..	6
Arteriosclerosis and hypertension	12	..	..	..	1	..	..	13
Hypertension	6	..	..	..	1	..	..	7
Thyroid, hypertension and arteriosclerosis	1	..	..	..	..	..	..	1
Syphilis, hypertension and arteriosclerosis .....	..	..	..	1	..	..	..	1
Syphilis and arteriosclerosis	1	..	..	1	..	..	..	2
Syphilis .....	..	..	..	2	1	..	..	3
Bacterial endocarditis	1	..	..	..	..	..	..	1
Unclassified	1	..	..	..	..	..	..	1
Total	73	6	14	5	13	3	2	116

compensation in which the dilatation has markedly lessened or disappeared entirely, the murmur if functional will have also disappeared. Rarely is there opportunity for the prolonged period of observation. Bear this difficulty in mind in reference to table 3. You will note that mitral regurgitation occurred more often than any other lesion. I feel that some of these murmurs are functional. Considering the inaccuracy, I hesitate to give much value to these figures but I believe they are of some interest. Murmurs occurred as shown in 116 cases or 34.6 per cent of the 335 cases; 81 of these 116 cases occurred in rheumatic heart disease, 6 in syphilitic heart disease, 26 in hypertensive and arteriosclerotic heart disease, one in bacterial endocarditis, one unclassified and one in thyroid, hypertension and arteriosclerosis. Seventy per cent of the hearts with murmurs were rheumatic. As shown in table 1 there were 102 cases of rheumatic heart damage. There were then 21 cases, or 20.5 per cent of the rheumatic hearts, which did not have murmurs. By similar calculation the incidence of murmurs in syphilitic heart disease is 66.6 per cent. There are in the total series of 335 cases 65.4 per cent which have on physical examination no murmurs. I think this indicates that in the past too much stress has been placed upon murmurs in evaluating heart trouble.

SUMMARY

1. There were 335 cases of organic heart disease found in 2250 consecutive general cases thus giving the incidence of heart disease as 15 per cent.
2. Rheumatic infection caused heart damage in 28.8 per cent; arteriosclerosis uncomplicated caused heart damage in 13.7 per cent; arteriosclerosis plus coexistent agents caused heart

- damage in 47.4 per cent; hypertension in 15.5 per cent; hypertension and associated causes in 51.3 per cent; syphilitic heart damage occurred in 2.7 per cent; thyroid in 3.6 per cent; the etiological agent undetermined in 4 per cent; bacterial endocarditis caused heart damage in 0.6 per cent.
3. The total number of males with heart disease was 172, females 163. Females more frequent than males in the rheumatic, hypertensive and thyroid types. Males were more frequent than females in arteriosclerotic and syphilitic types.
 4. Twenty-five per cent of heart disease occurs under 40 years of age, 75 per cent of which is of rheumatic origin. The average age of hypertensive heart disease when first seen is 48 years, of arteriosclerotic heart disease 65 years, of arteriosclerosis and hypertension 63.5 years. All cases of syphilitic heart disease occur above age 40. Heart damage from hyperthyroidism occurs in higher age levels.
 5. Angina pectoris occurred in 28 cases (8.3 per cent), 78.6 per cent of which was found in arteriosclerotic heart disease.
 6. Heart murmurs occurred in 116 cases, or 34.6 per cent, 65.4 per cent of heart disease being without murmurs. Seventy-five per cent of the hearts with murmurs were rheumatic murmurs occurring in 79.5 per cent of rheumatic heart disease and in 66.6 per cent of syphilitic heart disease. Murmurs were rare in heart disease from hypertension, thyroid and arteriosclerosis.

320 Kirkpatrick Building.

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BACTERIUM OF ACUTE RHEUMATISM

REPORT OF A FATAL CASE *

WALTER M. WHITAKER, M.D.

QUINCY, ILL.

Acute rheumatism has long been considered a disease of an infective nature as evidenced by the clinical characteristics of fever, red, swollen and tender joints of polyarthritides, the accompanying carditis, the meningo-encephalitic manifestations of chorea and the histological and pathological evidence of the Aschoff body in the heart and the subcutaneous nodule in the skin. Of course, all grades of severity of the clinical manifestations may be evidenced in any particular case. Children seem more liable to develop the chronic relapsing form of the disease, while adults are more apt to show a rather sudden, single, severe attack.

No attempt is being made in this article to report on or to investigate the importance of parental history, teeth and tonsillar infections, dampness and home environment as factors concerned in the production of acute rheumatic disease; it is rather an effort to review the ideas expressed to date bearing on the bacteriological nature of the disease, and to report a fulminant case of acute rheumatism of unusual severity and nature as shown by the isolation and culture from the blood, spinal fluid and pleural fluid of an identical diplococcus with cultural reactions similar to those described by Poynton and Paine in 1900.

It remained for Poynton and Paine¹ in 1900 to be the first to carry out extensive research work over a period of two and one-half years pertaining to the etiology of acute rheumatic fever. The predominating views current in

1900 were: (1) That there was no definite microbe the cause of rheumatism but that the disease was analogous to a septicemia caused by staphylococci or streptococci with pyemic manifestations. (2) That the disease was due to a diplococcus. Dr. A. Mantle and Dana in 1894 had isolated a diplococcus from a case of chorea following rheumatism and found the organism in the meninges of the brain and cord. Westphal, Wassermann and Malkoff in 1899 in a case of chorea following rheumatism also found a diplococcus in the blood and brain. (3) That rheumatism was due to a bacillus resembling the anthrax bacillus, a view held by Achalmé in papers published in 1891. (4) That the disease was due to a mixed infection of bacilli and micrococci. (5) That rheumatic disease was not an entity but a special reaction of the tissues to varied infections.

With such a conglomeration of views facing them, Poynton and Paine began their investigation and were able to demonstrate diplococci, which grew in streptococcic chains, in eight successive cases after failing to confirm Achalmé's bacillary idea. In five of the eight cases (three of the five being from the blood stream) the organism was in pure culture. Poynton and Paine were of the opinion that this organism was analogous to that of Westphal and Wassermann. They demonstrated the microbe in the tissue of a rheumatic nodule, from the heart valves, the blood, pericardium and tonsils, but no mention was made of any isolation from the nervous system of their patients. However, by intravenous injections in experimental animals (rabbits) they were able to isolate the diplococcus in pure culture from joint exudations, blood, urine and cerebrospinal fluid (in two or three cases), and to produce the lesions of rheumatism. In 1898 Poynton and Paine¹ also demonstrated a diplococcus in the lymph spaces of the pia mater and in the capillaries and motor area of the brain in a case of chorea dying in St. Mary's Hospital with excessive movements and with the heart but little affected.

To the isolated organism was attached the name of *Diplococcus rheumaticus*, the principal characteristics of which were described by Poynton and Paine,¹ as follows:

It is a small micrococcus, 0.5 in diameter, and grows usually in pairs or in short chains. It stains readily with aniline dyes but does not retain Gram's stain with great tenacity.

Cultural Characteristics.—In bouillon at 37 degrees C. there is turbidity, with a slight flocculent deposit in 24 hours. In three days the fluid becomes clear and there is a distinct deposit.

On blood agar, one of the most favorable media, in 24 hours minute white colonies are visible; these

* From the Van Ravenswaay Clinic and St. Joseph Hospital, Boonville, Mo.

tend to remain discrete and to alter the blood pigment to a rusty-brown color. Upon this medium the micrococcus will live for long periods of time.

Milk and bouillon, slightly acidified with lactic acid; this is a useful medium for isolation of the micrococcus. In 24 hours the milk is coagulated.

Since the lengthy work of Poynton and Paine, various other observers have grown a similar organism from cases of rheumatic infection, among such observers being Ainley Walker,² Beattie,³ Rosenow,⁴ Longcope⁵ and Meakins.⁶ Rosenow⁷ noted three types of cocci from the acute joints in rheumatism, some forming green on blood agar, some a hazy hemolysis and some not perceptibly affecting the media, each strain having a peculiar property of effecting or causing only one or a few of the usual symptoms while another strain would produce the missing phenomena, etc. He made no note of colonies producing a rusty-brown hemolysis on blood agar, but does remark concerning the definite transmutations which occur within the streptococcic group; for instance, those strains which at first produced only a narrow zone of hemolysis on blood agar gave a much wider zone after prolonged cultivation. By means of animal passage it has been possible to convert strains into typical pneumococci.

Adverse opinion to the acceptance of the micrococcus of Poynton and Paine as the causative agent in rheumatic fever has been based mainly on the failure of numerous investigators to isolate the specific organism in a considerable number of successive cases of acute rheumatism in life, particularly the failure to be present persistently in blood culture studies. The difficulty of finding the bacterium in sections of tissue is also cited as evidence against the idea. However, the organism seems to be one which loses its virulence quickly in the tissues and, unless sought for at a particular point in its cycle, may not be found. Again, cultures taken from tissues or fluids in one locality of the body may be sterile while the cultures from another part would show the organisms.

Topley and Weir,⁸ in experimental work pertaining to the lesions produced in rabbits by inoculation of streptococci isolated from rheumatic and other lesions of humans, concluded that it was not only possible to produce lesions similar to those of acute rheumatism in man from rheumatic cases, but that streptococci derived from sources unconcerned with rheumatic disease would produce similar lesions.

In view of such diversified findings by various observers it seems difficult to reconcile one to the idea of a specific *Streptococcus rheu-*

maticus in a strict sense, but not to the idea that acute rheumatism is due to streptococci which have the peculiar properties of being so altered by cultural environments in a special direction as to make them able to produce rheumatic disease.

More recent work in the etiology of acute rheumatic disease by Small⁹ has again enlivened the field with the appearance of another streptococcus—*Streptococcus cardio-arthritis*. Small claims a specific immunologic identity and also the preparation of a specific serum for this organism, plus its power to produce Aschoff nodules. This organism was a Gram positive, short-chained coccus, showing no diplococcal arrangement or alteration on blood agar. Green or dirty-brown discoloration about the colonies was entirely absent. There was no hemolysis. Due to the beneficial results obtained in treating rheumatic fever with a serum made from *Streptococcus cardio-arthritis*, Small considered such results as proof that rheumatic fever was caused by the specific bacterium *Streptococcus cardio-arthritis* of nonhemolytic nature.

Recent work by Swift¹⁰ and his co-workers indicates that repeated, low-grade focal streptococcus infection of various types leading to a state of hypersensitiveness in the host and following implantation into the tissues of small doses of relatively avirulent organisms, leads to extensive injury, while if inoculation (primary) is by vein any following infection is better tolerated by the host. Highly sensitized animals (made so by repeated small inoculations) give extremely intense reactions, not only to the homologous strain used for sensitization, but also to culturally and immunologically unrelated strains of streptococci. The most effective desensitization is by use of a strain homologous to the infecting one distinctly related strains may fail to desensitize.

Swift¹⁰ and his co-workers, due to the incidence of hemolytic streptococcus in tonsils and to the occurrence of rheumatic fever at times after scarlet fever, the latter of hemolytic streptococcus origin, prepared heat-killed vaccines of such streptococcus from tonsillar exudates of affected patients and secured improvement in rheumatic patients following graduated increased dosages intravenously, particularly in cases of low-grade infection or cases subject to relapses. Effort was made to avoid high fever and shock, thus tending to rule out any effect of nonspecific protein therapy as a factor in the immunizing process.

Intravenous vaccination with heat-killed green streptococci has also been done by Clawson and Fahr¹¹ in rheumatic fever subjects in whom they were able to produce high ag-

glutination titer in the blood serum, but no definite clinical results are reported.

The probable incorrectness of assuming that a particular streptococcus is the causative agent of acute rheumatism in all cases is evidenced by the following case:

REPORT OF CASE

J. W., male, aged 3, entered St. Joseph's Hospital, Aug. 6, 1930. Family history was negative. The child had always been in good health, was a full-term, bottle-fed baby developing normally. Had no childhood diseases. Four days prior to admission developed fever and headache rather suddenly. The fever rose to 104 degrees F. Two days prior to admission he had vomited all food ingested for one day and night but at time of admission he had stopped vomiting although he still felt nauseated. There were no convulsions. The child had held his neck stiff for 4 days but there was no drawing backward. Locomotion seemed a painful effort and the family had noted that attempted motion of the extremities induced pain. There had been no cough nor ear trouble. The kidneys seemed to function normally. No edema about eyes or ankles had been noted. The child had been constipated for 3 or 4 days. Seeming to become progressively worse, the child was brought to the hospital at the advice of the family physician where I first saw him presenting the following physical findings:

Child able to walk but cried with pain. Head held erect and stiff. Very fretful and cried much. Well nourished. Pupils reactive. Tonsils hypertrophic and reddened. No membranes in pharynx. Marked cervical rigidity. Glands in neck 2 plus. No general glandular enlargement. No ocular palsies. Lungs negative. Heart at outer limits of normal cardiac dimensions. Systolic apical blow. Pulmonic second sound accentuated. Blood pressure 90/60. Abdomen negative. Genito-urinary examination negative. Neuromuscular examination showed no evident paralyses, but limbs were rather flaccid. Knee jerk absent. No pathologic toe signs.

With the differential diagnosis apparently resting on acute rheumatism, meningitis, poliomyelitis, or septicemia, the following laboratory tests were done:

Spinal tap on day of admission revealed clear fluid under normal pressure with 4 polymorphonuclears and 3 lymphocytes. White blood cells 9900 with a differential of 64 per cent polymorphonuclears, 16 per cent lymphocytes, 18 per cent stab Kernige, and 2 per cent myelocytes. Urine negative except for 1 plus acetone. Tuberculin, 1 mgm. O.T., intradermally, negative. Blood culture on blood agar revealed tiny gray colonies with a rusty-brown zone of hemolysis, 24 to 48 hours after culture was taken. Smears from these colonies revealed a short-chained, small diplococcus which was faintly Gram positive. Such colonies aroused curiosity, due to the rarity of their incidence in our laboratory.

Course: The child ran a temperature of 102 to 104 degrees F. daily with coincident pulse rise. He was very restless and cried out suddenly with the piercing screams of a meningitic. He pulled at his hair and picked at the right ear. Otoscopic examination revealed no lesion, but myringotomy was done 3 days after admission with considerable bloody pus exuding. Four days after admission a pericardial rub was heard. At the same time, marked pallor and increased respiratory rate developed with diminished air entry at the left base. Heart was markedly out to the left but there were

no muffled sounds. The left leg became flaccid. Lumbar tap revealed a very purulent fluid with a small Gram positive diplococcus which produced the rusty-brown discoloration on blood agar. Patient became more toxic and developed a pleural effusion in the left chest from which organisms were isolated identical with those in the blood and spinal fluid cultures. A total of 750 c.c. of purulent fluid was removed after two aspirations. The child died one week after admission. Autopsy was refused. Only sedatives and supportive therapy of glucose and salicylates were administered.

CONCLUSIONS

From the foregoing one must conclude:

1. Investigations both of human subjects and experimental animals point to the incidence of the streptococcus as the sole organism in acute rheumatism.
2. Different strains of streptococci are responsible. This is evidenced by the results of blood and tissue cultures isolated from rheumatic cases.
3. A case of acute, fulminant rheumatic disease with involvement of the heart, cerebral and spinal meninges, lungs and pleurae, is presented.
4. A diplococcal organism, analogous in cultural reactions and microscopic morphology to the *Diplococcus rheumaticus* of Poynton and Paine, was isolated from such case.
5. Such findings and past and present studies tend to dispute the nonhemolytic *Streptococcus cardio-arthritis* as being the sole cause of rheumatic fever.

700 W. C. U. Bldg.

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TREATMENT OF CHOREA BY INDUCTION OF FEVER

Lucy Porter Sutton, New York (*Journal A. M. A.*), has treated twenty-four choreatic patients with intravenous injections of typhoid-paratyphoid vaccine as a means of producing fever. The results thus far have been good. There has been prompt cessation of the symptoms, and the course of the disease has seemed to be greatly shortened. In the cases reported the average duration after treatment was started was from eight to nine days. This treatment has been much more satisfactory than any other used at Bellevue Hospital on the Children's Medical Service. It appears to have definite advantages over phenyl-ethyl-hydantoin.

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MARCH, 1932

EDITORIALS

THE JEFFERSON CITY SESSION— 75TH ANNUAL MEETING

Jefferson City had the distinction of having entertained the Fiftieth Annual Meeting of the Association which occurred in 1906 and now is preparing to entertain the Seventy-Fifth Annual Session. The Association in reality is older than seventy-five years having been organized in 1850. Meetings were held annually from 1850 to 1858 inclusive but were suspended during the period 1859 to 1866 inclusive during the agitation preceding and during the Civil War. The Association is therefore this year celebrating its eighty-second birthday but its seventy-fifth annual meeting. Plans for the Jefferson City session of the Association, May 23 to 26, are well under way and hold promise of this being one of the best meetings in recent years.

The great interest shown by the members of the Association in appearing on the scientific program has made possible a varied and valuable schedule of presentations by men well qualified in their fields. Four symposia furnish concentration on subjects important to every physician whatever his specialization may be. Dr. Edward H. Cary, Dallas, who will be installed as president of the American Medical Association at the New Orleans meeting will deliver an address. Other eminent guests who will appear on the scientific program are Drs. E. T. Bell, Minneapolis; Burton J. Lee, New York City, and William S. Middleton, Madison. A feature which will add much to the meeting will be the scientific exhibits. The number of requests to present such exhibits indicates that these will be extensive and of definite educational value.

The session will convene in the assembly hall of the Junior College which is well arranged to accommodate the meeting comfortably. The several hotels assure comfortable accommoda-

tion at reasonable rates. The Missouri Hotel is headquarters. Members should communicate direct with hotels in making reservations or write to the committee on hotels. In addition to hotel accommodations quarters will be available in private homes.

In addition to an excellent scientific program and an address by Governor Caulfield, Jefferson City offers many inducements. It is centrally located and easily reached by railroad or highway. It is the capital of the state and as such holds much of interest to all Missourians. The Local Committee on Arrangements are preparing a program of entertainments including an evening's entertainment at the prison, a golf tournament, a motion picture view of the Bagnell Dam and a visit to the Capitol building.

With the meeting almost three months away the local and state committees have progressed far and are actively engaged in carrying out further plans to make this an outstanding session.

The personnel of the Committee on Arrangements follows:

General Committee on Arrangements

Dr. J. S. Summers, Jefferson City, Chairman; Dr. W. L. Allee, Eldon; Dr. W. H. Breuer, St. James; Dr. J. A. Hill, Jefferson City.

Local Committee on Arrangements

Dr. W. A. Clark, Jefferson City, Chairman; Drs. W. W. Rambo and F. W. Gillham.

Committee on Entertainment: Dr. James Stewart, Jefferson City, Chairman; Drs. R. P. Dorris, L. David Enloe, E. E. Mansur and S. P. Howard.

Committee on Reception: Dr. M. R. Aldridge, Jefferson City, Chairman; Drs. S. V. Bedford, J. G. Bruce and F. W. Gillham.

Committee on Hotels: Dr. J. G. Bruce, Jefferson City, Chairman; Drs. Herbert Taylor and J. E. Jose.

Committee on Golf: Dr. W. A. Clark, Jefferson City, Chairman; Drs. L. David Enloe, J. T. Leslie, S. V. Bedford and F. W. Gillham.

Committee on Registration: Dr. Ross Hopkins, Jefferson City, Chairman; Drs. H. T. Leach, H. S. Gove and Irl B. Krause.

Committee on Auto Transportation: Dr. L. A. T. Meyer, Jefferson City, Chairman; Drs. Leon Taylor and H. W. Maxey.

Committee on Scientific Exhibits: Dr. J. S. Summers, Jefferson City, Chairman; Drs. M. Pinson Neal, W. W. Rambo, C. E. Longacre, C. F. Enloe, and Mr. R. L. Laybourn.

Committee on Publicity: Dr. R. L. Russell, Jefferson City, Chairman; Drs. J. F. Jones, Irl B. Krause and C. S. Glover.

HOTELS AND RATES AT JEFFERSON CITY

Reservations for hotel accommodations at Jefferson City should be made in advance of the meeting. Members are urged to communicate with the hotels direct and mention what accommodations they would like to have re-

served for them. It is important to mention the price of room desired and to state the probable date of arrival. Should it happen that the hotel is unable to make the reservation desired, members should then write to the chairman of the Committee on Hotels, Dr. J. G. Bruce, Central Trust Building, Jefferson City. The Chamber of Commerce has assured the Committee that because of the legislature and numerous conventions in Jefferson City they are prepared to furnish adequate rooms if the hotels cannot accommodate all those who attend the session. The price of these rooms will be \$1.00 per day. The names of the hotels and rates follow:

MISSOURI HOTEL (150 ROOMS)

	Each Person	Each Additional Person
Room with shower, one double bed..	\$2.50	\$1.50
Corner room with shower, one double bed	3.00	1.50
Room with combination tub and shower, one double bed.....	3.00	1.50
Room with combination tub and shower, twin beds.....	4.00	2.00
Room with combination tub and shower, three single beds.....	4.00	2.00
Room with combination tub and shower, two double beds.....	4.00	2.00
Room with combination tub and shower, twin beds	3.50	1.50
Two-room suite (parlor and bedroom)	8.00	2.00

CENTRAL HOTEL (85 ROOMS)

Room without bath, one double bed	1.50 up	1.00 up
Room with shower, one double bed	2.00	1.00
Room with tub bath, one double bed	2.50 up	1.00
Room with twin beds.....	4.00	
Room with connecting bath, one double bed	2.50	1.00

NEW MADISON HOTEL (90 ROOMS)

Room without bath	1.50	1.00
Room with bath	2.50	2.00

CLINIC ABUSE

The medical profession is probably called upon to give more free service to the people than is done by any other group. In the practice of medicine this is inevitable. People can live without legal advice, they do not seek charity in making their religious connections and they can exist on limited amounts of food and clothing. But the instinct which calls for self-preservation quickly drives the sufferer from disease to a physician whether the patient has financial means or not.

That no group gives service to the indigent more fully or more willingly than do physicians is well known, but since physicians must subsist by their practice it has become a pertinent question as to just how much of the work done by physicians should be free or how much of this work the recipient is really able to pay for.

For the last several months the economics survey committee of the St. Louis Medical Society has been investigating clinic abuse in St. Louis. The study included personal conferences with those in charge of the administration of clinics; with physicians doing work in dispensaries and social service departments; examination of systems employed in the clinics with special reference to determining the eligibility of those admitted for treatment, and a questionnaire survey of members of the Society.

One hundred eighty-one, or 15 per cent, of the membership of the Society responded to inquiries either by questionnaire or by personal conference. It was found that one hundred of the 181 are engaged in dispensary work and that 88 of them reported a total of 560 hours per week devoted to hospital free service work. Seventy-eight estimated the value of the gratis dispensary work, based on fees in regular practice, as totalling \$342,202. One hundred twelve physicians estimated the value of charity work in their private practice for the year 1930 as totalling \$240,280, or an average of \$2145 for each physician. On this basis the amount of charity work performed by the total membership of the Society would amount to \$2,456,325.

Physicians do not object to giving their time and service to persons deserving of charity but doing work without charge where charity is undeserved is unfair to the physician and to the public which he serves. Therefore the committee endeavored to determine whether this amount of charity was justified. Sixty-five per cent of the physicians estimated that 21 per cent of patients who receive free care are able to pay a private physician; thirty-five per cent varied in their replies from "a great many" to "a number could pay a small amount."

Replies to the questionnaire indicated that 85 per cent of the physicians did not participate in any investigation of the patient's ability to pay and that 73 per cent believed the methods used to determine the patient's financial condition were inadequate.

The average of all replies by physicians doing dispensary work indicated that 40 per cent of those admitted to all clinics apply for treatment at more than one clinic. This duplication is fair neither to the public nor to those individuals who subscribe to the support of the dispensaries. It constitutes a waste of money and is most unfair to the members of the profession to require them to give their time and skill under such circumstances, especially as 25 per cent of physicians stated that they have a daily allotment of patients in clinics greater than they can adequately handle.

The reference committee after considering

the report of the economic survey committee on clinic abuse presented the following motion which was adopted by the Society:

That the president be authorized to appoint a Committee on Dispensary Cooperation to consist of six members, one of which shall be the executive secretary, with the following duties: (1) To meet and confer with a similar committee from the St. Louis Health and Hospital Council regarding the adoption of a workable plan for the establishment of a central registration bureau along the lines suggested by the Economic Survey Committee; (2) to hold conferences with the management and staffs of private institutions concerning medical care and treatment furnished ward patients; (3) to meet and confer with the Hospital Commissioner, other officials and the visiting staffs of the various municipal institutions for the purpose of perfecting an adequate method of investigation of applicants for treatment; (4) to give prompt and careful consideration to the suggestion made concerning physicians receiving financial remuneration for services rendered as members of the visiting staffs of the various municipal institutions and for assuming the responsibilities associated with the care and treatment of the sick; (5) to promptly investigate all matters of clinic abuse called to its attention by individual members of the Society; (6) to submit to the Society for final approval all plans and recommendations; provided, however, that the Reference Committee shall be called into consultation by the Committee on Dispensary Cooperation for the purpose of aiding in the outlining of all motions and resolutions for final consideration by the Society.

This proposition, like several which have come before the Society in the last year, will promote the welfare of the public equally if not more than that of the physician. The Society was an influential factor in obtaining the allowance of an increased amount for medical, nursing and hospital expenses in the workmen's compensation act; aided materially in forestalling the establishment of a low-grade medical school in St. Louis and obtained meat inspection for the city. The abolishing of clinic abuse will aid the public no less than these measures have done and the Society has proved its ability to carry through a worth-while change.

THE CHILD GUIDANCE CLINIC

An increasing tendency on the part of the public to seek medical advice and treatment for mental disorders, behavior and personality problems, and other forms of human maladjustment when the earliest symptoms appear, is reported by the National Committee for Mental Hygiene which has recently finished a nation-wide inventory of existing facilities for the study and management of these conditions outside of institutions.

This tendency is reflected in a marked growth in the number of mental hygiene and child guidance clinics established in various communities in the United States during the

last ten years and signifies a recognition of the importance of mental health in the daily lives of increasing numbers of the population. In 1920 such clinics, the Committee states, were comparatively rare. Today, the study shows, there are some 674 clinics which provide a regular mental health service to the public in 34 states, most of these having come into existence since 1922.

More than 50,000 children with all sorts of behavior disorders and mental problems were examined and treated in these clinics during the last year. The universal usefulness of the psychiatric clinic, which is the central feature of the child guidance movement, is attested by the variety of institutions and agencies that sponsor such clinics, as hospitals, dispensaries, charity and welfare bureaus, boards of education, colleges and universities, visiting nurse associations, medical schools, community funds, foundations, courts, probation services and mental hygiene societies. Public and private organizations, parents and teachers, physicians, judges, clergymen and social workers, all have recourse to the child guidance clinic for help in the solution of juvenile problems.

Approximately 36,000 adults appeared at clinics during the last year for treatment of their own mental problems. This number is equal to about half the number of patients admitted to mental hospitals in the United States each year. This is a hopeful sign of progress in community management and control of what is undoubtedly one of the country's greatest public health problems at the present time.

Of the 674 clinics, 232 are child guidance clinics; that is clinics which have the regular services of psychiatrist, psychologist and psychiatric social worker. The others are mental hygiene clinics handling both children and adults and variously staffed, depending upon local conditions although in each case at least one psychiatrist is in regular attendance at the clinic. The majority of the clinics operate on a part-time basis due in part to financial limitations and the dearth of trained workers, but also because in many cases part-time clinics are best suited to the purposes of the organizations they serve.

In rating a city on its child guidance work the assumption is made that for every 200,000 of population there would be at least one clinic having the combined full-time services of a psychiatrist, psychologist and two psychiatric social workers. Experience has shown that such a clinic is ordinarily within the financial and social capacity of a community of 200,000 population and instances of such a degree of service occur frequently enough to justify this standard. According to this rating, Worcester,

Massachusetts, has the largest pro rata child guidance service among the cities of the United States, being credited with 168 per cent. St. Louis has a percentage of 56, and the average of the cities covered by this survey, representing 25 per cent of the population of the United States, is 46.5 per cent.

Commenting on the phenomenal progress made in this phase of mental hygiene work during the last decade, Dr. George S. Stevenson, director of the division on community clinics of the National Committee for Mental Hygiene, states that the development in child guidance has an educational significance far beyond the actual work done by the clinics themselves in the study and treatment of problem children. The clinic represents the extreme upper end of child guidance, handling the more complex cases only and leaving to various groups and individuals in contact with the child the simpler problems of everyday life. It is the task of the child guidance clinic to help in attaining a community ideal through the children which it studies. In those communities where clinics have worked over a sufficient period of time, an increasing acceptance of child guidance responsibilities by parents and agencies has been observed as well as a growing demand for and use and appreciation of these clinics.

The first line of defense has been and always will be the school, the family doctor, the church, the court, the social and health agencies, and the parents themselves who must continue to bear the brunt of responsibility for dealing with these children by cultivating their own mental hygiene and by enlarging their capacities for doing mental hygiene work on their own account. The clinic is to "help them to help themselves," to consult with them on their more difficult cases, to function as an educational and training center and to furnish the necessary leadership for community teamwork.

NEWS NOTES

Dr. John F. Chandler, Oregon, was appointed county physician of Holt County and deputy state commissioner of health at a session of the Holt County Court the first week in January. The tenure of office is three years.

The Midwest section of the Triological Association met in Kansas City on January 21 in a joint session with the Kansas City Society of Ophthalmology and Oto-Laryngology. Addresses were presented by a number of Kansas City physicians in the morning and in the afternoon, Dr. William Benedict, of Rochester, Minnesota, guest of the meeting, conducted a clinic. The session closed in a dinner meeting.

The iodine in the human body is an amount equal in size to a common pinhead.

Dr. H. I. Spector, St. Louis, who resigned six years ago as tuberculosis controller for the city, was reappointed to that position on February 3 by Health Commissioner Starkloff to succeed Dr. Howard H. Bell who died January 7.

Drs. Fred B. Kyger and H. C. Berger, of Kansas City, were guests of the Golden Belt Medical Society at Manhattan, Kansas, on January 7. Dr. Kyger delivered an address on "Some Problems in Obstetrics" and Dr. Berger spoke on "Visceroptosis in Children."

Dr. A. C. Griffith, Kansas City, was elected and installed president of the staff of St. Joseph's Hospital, Kansas City, at the annual dinner of the staff on January 11, 1932. Other officers installed were: Dr. T. A. Kyner, vice president; Dr. C. Edgar Virden, Jr., chief of staff; Dr. A. J. Welch, treasurer; Dr. J. G. Webster, secretary, and Dr. Howard Hill and Dr. J. M. Frankenburger, executive committee.

The next written examination of the American Board of Obstetrics and Gynecology will be held in nineteen different cities of the United States and Canada at 2 p. m. on Saturday, March 26, 1932. The general, oral and clinical examination will be held in New Orleans on Tuesday, May 10, immediately preceding the meeting of the American Medical Association. Detailed information and application blanks may be obtained from the secretary, Dr. Paul Titus, 1015 Highland Building, Pittsburgh, Pennsylvania.

For the first time in the educational history of this country a policy of taking roentgenograms of the lungs of all members of the entering classes in all departments of a university has been adopted. Yale University, New Haven, Connecticut, has inaugurated the practice as a further means of safeguarding the health of its students, according to the annual report of the Department of University Health. The roentgenograms are made with a view to determining the presence of tuberculosis in any of its manifestations and all students whose chest pictures show indications of trouble are to be carefully followed during their college courses and roentgenograms made at least once a year. Stereoscopic roentgen ray films of 1602 new students were made last year. A total of 283, or 17.7 per cent, of this number showed evidence of infection regarded as potentially dangerous but in most instances not destined to cause trouble.

Dust-free air does not exist anywhere in nature.

Dr. Eugene Pond, Kansas City, was named president of the staff of Wesley Hospital, Kansas City, at a meeting on January 20. Dr. O. H. McCandless, Kansas City, was elected vice president and Dr. J. Phil. Edmundson, Kansas City, secretary.

It has been generally known that a naturally left-handed child forced to become right-handed may become a stammerer; now a British physician finds a naturally right-handed child who was trained to be left-handed by a left-handed sister has become a chronic stammerer.

The first successful immunization of an animal against a many-celled parasite was reported by Prof. Harry M. Miller, Jr., of Washington University, St. Louis, at the meeting of the American Association for the Advancement of Science in New Orleans in December, 1931. Professor Miller reported that by injecting portions of a tapeworm into rats it is possible to prevent the development of tapeworms from eggs fed later to the rats so protected. The parasite used in this study on immunization was obtained from the intestine of the cat and has its larval stage in the liver of the rat.

The campaign against drug addiction which is being carried on by American scientists and physicians under the auspices of the National Research Council will be financed for the next three years by the Rockefeller Foundation, it was announced in *Science Service*, January 26. The sum granted will provide for an increase in the yearly budget so that investigations can be pushed vigorously. This special campaign was begun in 1929 under the direction of the Drug Addiction Committee of the National Research Council, Dr. William Charles White, Washington, D. C., being chairman. One of the objects has been to find non-habit-forming substitutes for narcotic drugs. At the University of Virginia, Dr. L. F. Small, Dr. Erich Mosetting and Dr. Alfred Burger have prepared one hundred new morphine derivatives and closely related substances. These have been examined by Dr. Charles W. Edmunds and Dr. Nathan B. Eddy of the University of Michigan who report very satisfactory progress.

On the basis of these results the Rockefeller Foundation has assumed the financial responsibility for the work until January 1, 1936. Originally the funds were provided by the Bureau of Social Hygiene, Inc., of which Lawrence B. Dunham is director.

Halibut liver oil is rich in both vitamins A and D.

The Grade Teachers' Association of St. Louis and Dr. E. V. Cowdry of Washington University School of Medicine have obtained funds for the purchase of a respirator for the St. Louis Children's Hospital. Up to now there has been no respirator in or near St. Louis.

The Medical Society of the Missouri Valley will hold its annual meeting in Omaha, Nebraska, March 29 to 31 with headquarters at the Hotel Fontenelle. Among the guests of the society who will deliver addresses are Drs. J. C. Bloodgood, Baltimore; Frank H. Lahey, Boston; Loyal Davis, Chicago; Walter C. Alvarez and Henry F. Helmholtz, Rochester, Minnesota; Albert Kuntz, St. Louis, and Burt R. Shurly, Detroit. The Medical Society of the Missouri Valley was organized in 1873 and reorganized in 1928. Dr. E. H. Skinner, Kansas City, is president of the organization.

The third annual meeting of the Medical Association of the Missouri Pacific Railroad was held in St. Louis January 29 and 30. The scientific session was held in Hotel Jefferson on the first day and medical and surgical clinics were conducted at the Missouri Pacific and other hospitals on the second day by members of the staff of the St. Louis hospital and out-of-town members of the association.

Dr. Emmett P. North, St. Louis, president of the association, presided at the business and scientific sessions. The meeting was called to order by Dr. O. B. Zeinert, St. Louis, chief surgeon of the Missouri Pacific Lines, and Dr. Francis Reder, St. Louis, president of the St. Louis Medical Society, delivered the address of welcome. The scientific session included the following speakers and titles: Dr. J. W. Duncan, Omaha, "Some Factors Influencing Mortality and Morbidity"; Dr. Frank Teachenor, Kansas City, "Skull Fractures and Brain Injuries"; Dr. Joseph S. Summers, Jefferson City, "Radiation of Infected Tonsils"; Dr. James R. McVay, Kansas City, "The Value of Rectal Examinations"; Dr. Walter E. Dandy, Baltimore, "Diagnosis and Treatment of Various Lesions of the Cranial Nerves"; Dr. Edward H. Cary, Dallas, president-elect of the American Medical Association, "Glaucoma," and Dr. A. C. Stokes, Omaha, "Intestinal Obstruction Due to Pin Worms."

Dr. Edward H. Cary, Dallas, Dr. Emmett P. North and Mr. H. J. Mohler, St. Louis, spoke at a banquet meeting given on the evening of the first day at the Hotel Jefferson. Dr. O. B. Zeinert, St. Louis, presided as toastmaster.

Hunger and diet are a cause of nervousness in school children, is the view of three scientists who have made experimental studies along this line.

In a western pharmacy, the prescription office is in the center of the store, glassed in, so that a customer may see the prescription being put up.

Heroes of the United States Army who wagered their lives, not against a foreign enemy's gunfire and gas but against yellow fever, are to have a special plot in Arlington Cemetery marked with an imposing monument, if a bill introduced in Congress by Representative John J. McSwain of South Carolina is enacted. Three years ago Congress passed a bill providing pensions of \$125 per month for army officers and enlisted men who took part in the yellow fever investigations carried on in Cuba in 1900, or for their widows and heirs. There were some twenty-five of these men who submitted themselves for experimentation to prove that yellow fever is contracted only through the bite of an infected mosquito.

Dr. Albert James Welch, Kansas City, a loyal and active member of the Jackson County Medical Society, was elected president of that organization for the year 1932. Dr. Welch is an Ohioan by birth and received his preliminary education in Lebanon, Ohio, and his medical degree from the Starling Medical College at Columbus, Ohio, now the medical school of the University of Ohio. Upon completing his medical course he was appointed surgeon for three coal mines in Athens County, Ohio.

In 1895 Dr. Welch went to Kansas City and has maintained his practice there since that time absenting himself for postgraduate study in the New York Polyclinic and for study in clinics in the United States and Great Britain. During the World War he served in the office of Surgeon General Rupert Blue in Washington, D. C., and since the war has been a member of the Officers' Reserve Corps with the rank of captain.

Dr. Welch has been a member of the staff of St. Joseph's Hospital for many years. He helped to organize the Medico-Chirurgical College in Kansas City, Kansas, which later was moved to Kansas City, Missouri, and then was merged with the University of Kansas School of Medicine. For several years Dr. Welch was a member of the executive committee of the Jackson County Medical Society and also served as treasurer of the Society. He was a member of the committee that revised the last edition of the constitution and by-laws of the Society.

A new method by which the presence of tuberculosis germs can be detected in the circulating blood of patients suffering from tuberculosis was disclosed in a report to the District of Columbia Medical Society on January 21. The method was developed by Prof. Ernest Loewenstein of Vienna and described by Dr. Laszlo Detre of the University of Budapest, Hungary. By the method, Dr. Detre said, the presence of the germ can be detected in very early stages of pulmonary tuberculosis and in different forms of tuberculosis of the skin. It is claimed that acute polyarthritis has been found to have a tuberculous origin by means of the new method. In most arthritic cases the bovine type of the tubercle bacilli was found. The new test, it is said, also shows that multiple sclerosis may be of tuberculous origin.

The American College of Physicians recently selected Dr. O. T. Avery of the Rockefeller Institute of New York City as the recipient of the John Phillips Memorial Prize for 1932. The prize, an annual award by the College in the sum of \$1500, is given to perpetuate the memory of Dr. John Phillips, of Cleveland, a man of outstanding accomplishments as investigator, teacher and physician and for many years a member of the Board of Regents of the American College of Physicians, who gave his life in saving others on the occasion of the Cleveland Clinic disaster on May 15, 1929.

The committee on the John Phillips Memorial Prize, through its chairman, Dr. James H. Means, of Boston, recommends the award to Dr. O. T. Avery "for the series of studies upon the pneumococcus in which he has played a leading role, beginning with the discovery of the type-specific soluble capsular polysaccharides and culminating in the discovery of a bacterium producing an enzyme which splits the polysaccharides of Type III pneumococcus in vitro, thus rendering it susceptible to phagocytosis and thereby protecting the animals infected with it."

Dr. Avery will deliver an address entitled "The Role of Specific Carbohydrates in Pneumococcus Infection and Immunity," at the sixteenth annual clinical session of the College which will be held in San Francisco during the week of April 4, 1932. At the conclusion of Dr. Avery's address the prize will be presented to him by Dr. S. Marx White, of Minneapolis, president of the college.

It is the hope of the officers and members of the college that this annual prize in memory of a distinguished colleague may by recognizing merit be a continuing stimulus to investigators in those subjects having a direct bearing on the advancement of clinical science.

Ringworm of the feet has been found in about 90 per cent of male college students taking part in athletics, says a New York physician.

Dr. Jesse E. Douglass, Webb City, for the last four years superintendent of the Jasper County Tuberculosis Hospital, has been elected president of the Jasper County Medical Society for the year 1932. Dr. Douglass was graduated from the University of Minnesota School of Medicine in 1912. He spent one year as intern in the Mound's Park Sanitarium at St. Paul and then established and maintained a general practice at Thief River Falls, Minnesota, for four years. After two years of service in the army during the World War Dr. Douglass became assistant superintendent of the Minnesota State Sanatorium, Minneapolis, where he remained for nine years just preceding his coming to Missouri.

Search for a mechanical ear that will measure the disagreeable effect of different types of noises is to be undertaken by a national committee of acoustical engineers because lack of such a device now complicates work leading to noise elimination, according to a report to *Science Service*. Standardizing the measurement of noise and the terminology used in its study will also be investigated by this committee under the sponsorship of the American Standards Association. Formation of the committee was requested by the Acoustical Society of America and seventeen other national organizations that desire a correlation of the work on noise measurement. Hitherto investigations on this subject have been conducted by the several organizations.

A complete reversal in the method of treating nephritis was advanced before the Washington County (Michigan) Medical Society on January 27 by Dr. L. H. Newburgh and Dr. F. H. Lashmet of the University of Michigan Department of Internal Medicine at Ann Arbor. The treatment has already been adopted at the University Hospital. The investigators contend that in nephritis the diseased kidney can eliminate as much waste as the healthy organ if it is supplied with more instead of less than the normal amount of water. They have developed the exact mathematical relationship between the amount of water demanded by the kidney to eliminate a given amount of waste in a given time. They state that 2800 cubic centimeters is the absolute minimum intake for the average nephritic kidney and they have forced the intake of fluids up to as much as seven quarts.

Each of New York City's 1,600,000 school children received with his report card at the end of the first school month this year a message on the prevention of common colds.

The Missouri Social Hygiene Association elected officers at an annual meeting at St. Mary's Hospital, St. Louis, on February 11. Rev. Alphonse M. Schwitalla, St. Louis, dean of the School of Medicine of St. Louis University, was elected president. Among other officers elected were: Vice presidents, Drs. Llewellyn Sale, Martin F. Engman and Francis L. Bishop, of St. Louis, and secretary-treasurer, Dr. Richard S. Weiss, St. Louis.

The St. Louis Trudeau Club will hold its next regular meeting at the Medical and Surgical Chest Service, Barnes Hospital, Thursday, March 3, at 8:00 p. m. The following program has been arranged: "Compression Therapy in the Treatment of Pulmonary Tuberculosis," with demonstration of patients and new instruments, by Drs. J. J. Singer and Evarts A. Graham; "Typhoid Chondritis," by Dr. A. Goldman; "Treatment of Lung Abscess by Postural Drainage and Pneumothorax," by Dr. M. Smith; "Bilateral Phrenicectomy for Pulmonary Tuberculosis," by Dr. Duff S. Allen; "Subscapular Abscess," by Dr. M. Berck, and "Cysts of the Lung," by Dr. H. C. Ballou. Members will be given an opportunity to inspect the new Medical and Surgical Chest Service and chest wards. Members of the Association are invited to attend.

Actual construction of the Federal hospital for the defective delinquents now confined in Federal prisons was begun at Springfield February 2. It is estimated that the completion of the institution will require sixteen months. Springfield was selected by the Federal Department of Justice over thirty-five other cities because among other reasons the altitude is favorable for the treatment of tuberculosis and because there is direct rail connection from Springfield to several Federal penitentiaries. A 500-acre plot just south of the city limits was donated to the Government by the citizens of Springfield through the Chamber of Commerce. The largest group of patients to be treated in the hospital will be the psychopaths, both those regarded as insane when incarcerated and those who become mentally deranged after their commitment. Patients suffering from tuberculosis and other diseases requiring hospitalization away from the prison atmosphere will also be treated in the institution.

The United States Civil Service Commission announces open competitive examinations for senior medical, medical and associate medical officers in cancer diagnosis and treatment. Applications must be on file with the United States Civil Service Commission at Washington, D. C., not later than March 22, 1932. The examinations are to fill vacancies in the United States Veterans' Administration throughout the United States. Competitors will not be required to report for examination at any place but will be rated on their education, training and experience. Full information and application blanks may be obtained at the post office or customhouse in any city or from the United States Civil Service Commission, Washington, D. C.

Acid saliva has a relation to the personality of the individual, the more excitable persons tending to have less acid saliva than do the calm and apathetic persons, Dr. Gilbert J. Rich of the Institute for Juvenile Research in Chicago reported to *Science Service*. On the basis of his studies and those made by other persons, Dr. Rich suggests that abnormal acidity or alkalinity may affect not only the temperament of the normal person but also the more serious personality disturbances of mental disease. Dr. Rice says he found that a similar relationship existed between the excitability of the person and the amount of the chemical creatinine found in the blood. The most emotionally excitable persons have the greatest amount of this product of muscular metabolism.

The Kansas City Southwest Clinical Society held an unusually interesting clinic on February 9 at St. Luke's Hospital, Kansas City. The entire program was devoted to the subject of arthritis and included lectures, case presentations and pathological specimens demonstrating various phases of this subject. Dr. H. P. Kuhn, local chairman, had arranged the program so that there would be open discussions by both the audience and the speakers. Dr. W. E. Post, clinical professor of medicine, Rush Medical College, the honor guest, delivered a short address on the general subject "Arthritis," and was followed by each speaker in turn with a discussion of the cases presented. The interest of the audience was held throughout the morning by the discussions elicited on the various problems presented. In the evening Dr. Post was a guest of the Jackson County Medical Society and delivered an address on "Recent Advances in Nephritis."

The March Clinic of the Society will be held at St. Joseph's Hospital on March 8. The first

hour of the morning will be devoted to an operative clinic of general surgery which will be followed by a urologic clinic with case demonstrations. The honor guest, Dr. Hugh Cabot, professor of surgery, University of Minnesota Graduate School of Medicine, will conclude the morning's program with a lecture on "The Management of Cancer of the Prostate." Dr. Cabot will discuss "The Place of Nephrostomy in the Treatment of Kidney Lesions" before the Jackson County Medical Society in the evening.

The following articles have been accepted for New and Nonofficial Remedies:

Abbott Laboratories

Ampoules Potassium Bismuth Tartrate—
D. R. L., 2 c.c.

Ciba Co., Inc.

Sugar Coated Tablets Lipoiodine—Ciba,
0.3 Gm.

Cutter Laboratory

Diphtheria Toxin for the Schick Test, 10
test doses

Tuberculin B. F. (Bovine)

Typhoid Vaccine, 20 c.c. vial

Gane & Ingram, Inc.

Phenobarbital Sodium—Gane and Ingram

Tablets Phenobarbital Sodium—Gane and
Ingram, 1½ grains

Gilliland Laboratories, Inc.

Scarlet Fever Streptococcus Antitoxin (Re-
fined and Concentrated)

Lederle Laboratories, Inc.

Brucella Melitensis Vaccine—Lederle

Normal Horse Serum (1:10 Dilution) for
the Conjunctival Test

Eli Lilly & Co.

Diphtheria Toxin for Schick Test, Diluted
Ready for Use—Lilly

Mead Johnson & Co.

Mead's Powdered Brewer's Yeast Tablets

United States Standard Products Company

Antimeningococcic Serum Polyvalent

Winthrop Chemical Co., Inc.

Sterile Solution Skiodan (40% by volume)

Nonproprietary Articles

Brucella Melitensis Vaccine

Phenobarbital Sodium

Dr. Urban J. Busiek, Springfield, who has spent his entire medical career in Springfield, was elected president of the Greene County Medical Society for the year 1932. Dr. Busiek received his A.B. degree from Washington University in 1917 and his degree of Doctor of Medicine from the School of Medicine of the same institution in 1919. After a year of service in the St. Louis Children's Hospital he

established his practice in Springfield where he has confined his work to the field of pediatrics.

Dr. Busiek was an enthusiastic participant in college sports, playing football, basket ball and baseball; but his interests were never drawn from his studies and his intended specialty. During his senior year he received the Gill prize in pediatrics. Dr. Busiek is a member of the Central States Pediatric Society and was recently elected to membership in the American Academy of Pediatrics.

In recognition of his generous support of medical research, Dr. Henry S. Wellcome, LL.D., of London and Washington, honorary president of the American Pharmaceutical Association, was knighted by King George and his name included in the New Year's Honors List. Dr. Wellcome is president of Burroughs Wellcome and Company, of London, manufacturers of chemicals.

Dr. Wellcome is a native of Wisconsin and became a British subject by naturalization. He was graduated from the Philadelphia College of Pharmacy and Science. His American interests are wide and he spends a part of each year in Washington, D. C. He is a director of the Gorgas Memorial Institute of Tropical Medicine, Washington. At the direction of the Secretary of War, Dr. Wellcome made a detailed inspection of conditions and methods of operation in the Canal Zone in 1910 when an attempt was made to cut down the appropriations for the sanitary work of General Gorgas. Dr. Wellcome has received world-wide renown for his great service in medicine and other sciences. He is an honorary Fellow of the Royal Society of Medicine, London, the Royal Society of Tropical Medicine and Hygiene, London, and honorary corresponding doctor of the College of Medical Men, Madrid; vice president of the Society for Nautical Research; Fellow of the Society for Antiquaries, Royal Geographical Society, Royal Anthropological Institute and the Zoological Society. The honorary degree of Doctor of Laws was conferred upon him by the University of Edinburgh in 1928.

Dr. Francis Reder, an enthusiastic participant in medical affairs in St. Louis and the State for thirty-four years, was installed as president of the St. Louis Medical Society, January 5. Dr. Reder is a native of Illinois but received his premedical education in Washington University and his medical training in St. Louis Medical College being graduated in 1884. He served as intern in the City Hospital for a year and as senior physician in the Female Hospital for a year. For two years he

held the position of house physician in the German Hospital in New York and then went abroad for study returning in 1891. He established his practice in Quincy, Illinois, and remained there until 1898 when he moved to St. Louis and there continued his surgical career.

He was chief of the clinic of diseases of the rectum in Washington University School of Medicine from 1899 to 1911, was visiting surgeon of the City Hospital from 1910 to 1930 and is now consulting surgeon of the Deaconess Hospital and of the Burlington and Wabash railroads.

Dr. Reder is active in many medical organizations and is eminent not only in the United States but in other countries. He holds membership in the St. Louis Surgical Society, American Association of Gynecologists, Obstetricians and Abdominal Surgeons, American Association of Railway Surgeons and the Wabash Surgical Society. He has twice presented papers before foreign medical associations; in 1910 he addressed the Association Francaise of Paris and in 1930 the Pan-American Medical Congress in Panama.

Dr. Reder has been a staunch upholder of organized medicine and probably no member of the St. Louis Medical Society has been more faithful in regular attendance at the meetings of the Society and the annual meetings of the State Medical Association.

Infrequent "shots" of a potent liver extract into the veins of victims of pernicious anemia constitute a treatment of this disease developed at the Henry Simpson Memorial for Medical Research of the University of Michigan, Ann Arbor, and reported by *Science Service*. Dr. Raphael Isaacs, Dr. Cyrus Sturgis and associates at the Simpson Institute, have produced a liver extract about thirty times as powerful as any previously developed and suitable for administration by intravenous injection instead of being taken by mouth. According to the report the new extract has been used successfully for some months. Only four to six injections are necessary to restore the blood to normal after which health may be maintained by injections given at intervals of from four to six weeks.

The history of the clinical conquest of this long-dreaded disease began in 1926 when Dr. George R. Minot and Dr. William P. Murphy of Harvard University reported the successful treatment of patients by a diet containing large amounts of liver. Before liver was actually used in the treatment of human sufferers from the disease Dr. George H. Whipple of the University of Rochester had discovered from ob-

servations on dogs that liver was a powerful stimulator to increase the red blood cells.

Other chapters in the history of the conquest of pernicious anemia are the development of the liver extract to be taken by mouth by Dr. E. J. Cohn of Harvard Medical School; the development of the hog's stomach extract by Drs. Isaacs and Sturgis and Dr. Elwood A. Sharp of the department of experimental medicine of Parke, Davis and Company; the discovery by Drs. William B. Castle, Wilmot C. Townsend and Clark W. Heath of the Thorndike Memorial Laboratory, Boston City Hospital, that beef muscle acted upon by normal human gastric juice forms a substance which promptly alleviates pernicious anemia and that the normal human stomach secretes a hitherto unknown substance that prevents the development of pernicious anemia; and, finally, the isolation from liver, by Drs. R. West, H. D. Dakin and Marion Howe of Columbia University College of Physicians and Surgeons, of a crystalline salt which is active in pernicious anemia.

OBITUARY

HOWARD HOMER BELL, M.D.

It is difficult for a close friend to write an account such as this without seeming to exaggerate but a friend gets intimate glimpses and knows incidents that are denied to others. A few days after Dr. Howard Bell first arrived in St. Louis to take the position in pathology I had just vacated, I paid him a visit in his laboratory and he quickly returned the call thus initiating a friendship that continued on intimate terms for seventeen years.

Physicians will be interested in learning what a thorough going scientist Dr. Bell really was. Only a close associate would know how original was his mind and how intensely he could apply himself to a matter in hand. He would not rest content until he had penetrated to basic principles, and having collected information, had subjected it to a critical analysis and revelation of which few are capable. He was never misled into premature enthusiasms.

One characteristic example of Dr. Bell's manner concerns an investigation entirely on his own initiative into the origin of congenital cysts of the kidney. He worked hard cutting sections and from them making wax reconstructions of tubules. After the article was completed it remained unpublished probably because he was too modest to submit the paper to a journal. A few years later Dr. Raymond Dart, now of South Africa and noted for discovering the skeleton of an extinct near-human

ape, came over from London to work in anatomy for a few months. After the two became acquainted Dr. Bell exhibited his models and explained his conclusions. Dart was enthusiastic over their significance but pointed out that in the meantime a worker in Holland had arrived at and published identical conclusions.

Dr. Bell's ability was again demonstrated when he recognized and described a "horizontal and vertical pancreas" submitting the paper to an anatomical journal. The editor doubting the accuracy of such an unusual observation asked Dr. Terry to investigate. Dr. Bell was much humiliated at this turn but was of course substantiated and the article duly appeared.

While he was investigating the bacteriology of influenza just after the war I recall that he labored late into the night and on Sundays for weeks together. It was useless to try to lure him away for an evening's entertainment. This intense application was always in evidence in the rather numerous papers on a variety of subjects which he contributed to medical literature.

It seems as though Dr. Bell was fated to work under difficulties. Owing to lack of means he had to make his way financially while earning degrees in pharmacy and in medicine at Pennsylvania University and after graduation he was forced to take subordinate positions at low pay while getting special training. He also was beset by a number of peculiar and uncommon illnesses. While in France he was isolated for some weeks as a diphtheria carrier. Back in St. Louis he suffered a fracture of the anatomical neck of the humerus which necessitated a severe operation, kept him in bed for weeks with severe pain, required the arm to be worn in an aeroplane splint for months and did not become really well and comfortable for a year and a half. Then came the gall bladder trouble which was hanging over him for several years and finally to climax the train of ill fortune, the unusual and heart-breaking post-operative complication resulting in hemorrhage that continued for four weeks and eventuated in his death.

Dr. Bell held teaching positions successively in the University of Pennsylvania, University of Alabama, Mobile, Washington University, Cincinnati Medical School and St. Louis University. For several of his last years he was tuberculosis controller of St. Louis. He contributed many articles to medical journals, the earlier ones having to do with pathological matters and the later ones with tuberculosis and public health. All of these contributions were of a high order and one is impressed at the careful reasoning which they display.

The war record of Dr. Bell was an admirable one. He was abroad doing laboratory work in the army for more than two years and for a time he was chief of laboratory for Base Hospital No. 53. Following the Armistice he travelled to the Near East for the Hoover Commission. He was discharged a major having a citation from France and a decoration from the king of Rumania.

Dr. Bell's adaptability was shown on the occasion (1923) when he gave up pathological work to accept the chief residency on the medical service in the Cincinnati General Hospital and a teaching position in internal medicine under Dr. Roger Morris. The regular work was heavy and besides Dr. Bell had to brush up on a subject from which he had long been away but he finished the year a favorite with students and colleagues and was offered an assistant professorship for the following year. Incidentally, he ever after cherished a high regard and affection for Dr. Morris.

The same adaptability was displayed when he accepted the position of tuberculosis controller for St. Louis for he had not previously specialized in tuberculosis. That he strove to good effect is attested by the words of praise which his superior, Dr. Starkloff, never tires of speaking.

He was equally successful in nonmedical directions. On one occasion he took up golf and working on it with characteristic energy was within a few months going around in ninety or less with fair regularity. At bridge he was far superior to those with whom he usually played and his friends believe that if he had had the time to give it, might have become one of the foremost players of the city. As a social being he was delightful, an evening spent in listening to his shrewd observations on events and people never lagging for a moment. He was considered to have a quaint philosophical bent.

It is perhaps trite to refer to the human side of any doctor's life but Dr. Bell's patients were devoted to him. During his last illness many called to inquire about his condition and one insisted on donating blood for a transfusion. The feeling of his colleagues is shown by the willingness with which many gave generously of their time and services during this trying illness.

It is perhaps not widely known how deeply Dr. Bell loved pretty and artistic things. He nurtured plants and flowers in his home with tender care and even when most uncomfortable in his last illness would refer to the beauty of the flowers in his room. He was particularly sensitive to color schemes in clothes and the furnishings of houses. After his marriage to

Elizabeth Hull, two years ago, his home was his pride and joy.

Dr. Bell's death on January 7 cut off his life prematurely. He felt as one must have felt with him that despite his considerable achievements his life up to this time had been mainly one of preparation and that greater and better things remained for the future. Personally, as well as scientifically, he had a right to anticipate that the most fruitful and enjoyable part of his life lay ahead and we who were fond of him will agree that from every viewpoint he died too soon.—L. B. A. in the *Weekly Bulletin* of the St. Louis Medical Society.

JOHN F. SHOEMAKER, M.D.

Dr. John F. Shoemaker was born March 9, 1868, at Vanderbilt, Pennsylvania. After graduating from the Central Pennsylvania Normal School he entered the Medico-Chirurgical College in Philadelphia from which he was graduated in 1894. After four years of general practice in Pennsylvania he determined to prepare himself for the practice of ophthalmology. With this end in view he took extended courses at the New York Eye and Ear Infirmary and at the New York Post-Graduate School. In 1903 he removed to St. Louis to form a partnership with his brother, Dr. W. A. Shoemaker, an association which continued uninterruptedly until 1926 when he was compelled, on account of ill health, to retire from active practice.

Shortly after removing to St. Louis Dr. Shoemaker became associate editor of the *American Journal of Ophthalmology*, and for many years was in charge of the Abstract Department of that journal.

Dr. Shoemaker was a close clinical observer. In 1910 he was the first to describe a type of catarrhal conjunctivitis which remained uninfluenced by local treatment, but which yielded to measures directed against intestinal auto-intoxication.

Despite the handicap of delicate health, Dr. Shoemaker did not spare himself in practice. Painstaking and thorough in his work, he was rewarded by an unusual loyalty on the part of his patients who realized his zeal for their welfare and sympathetic understanding of their problems.

Quiet, unobtrusive, earnest, clear-thinking, he earned the respect and admiration of his colleagues. Well understanding high ethical standards and appreciating the niceties of professional relations, his conduct toward his colleagues was irreproachable. Those upon whom he bestowed his friendship were fortunate, in-

deed, for they alone knew the endearing qualities of the man.

He was a member of Grace Methodist Episcopal Church and for many years superintendent of its Sunday school.

Until his retirement he was ophthalmologist to the Deaconess Hospital; and consulting ophthalmologist to the time of his death.

He was a member of the St. Louis Medical Society, the State Medical Association, the American Medical Association, the St. Louis Ophthalmic Society, the American Academy of Ophthalmology and Oto-Laryngology and the American Ophthalmological Society.

During his years of active practice he carried on uncomplainingly despite the handicap of increasing invalidism. In the last years he bore his sufferings with characteristic fortitude until death gave him release November 21, 1931.

He is survived by his widow, Mrs. Ella Stanard Shoemaker.

And friends, dear friends, when it shall be
That this low breath is gone from me,
And round my bier ye come to weep
Let one most loving of you all
Say "Not a tear must o'er him fall.
He giveth his beloved sleep."

J. G. in the *Weekly Bulletin* of the
St. Louis Medical Society.

GEORGE S. BROWN, M.D.

Dr. George S. Brown, Edina, a graduate of the St. Louis College of Physicians and Surgeons, 1892, died at his home on January 13 of arteriosclerosis. He had been in ill health for two years but attended to his practice until a few weeks preceding his death. He was 62 years of age.

Dr. Brown was born in Marion County, the son of Dr. Lewis S. Brown, but removed with his parents to Knox County when he was a year old. He received his preliminary education in Edina and after completing his medical studies he entered practice there with his father. His father died in 1911 and "Doc George," as he was called, continued in practice in Edina for forty years.

Dr. Brown was one of the principal organizers of the Knox County Medical Society of which he had been president for the last ten years. He was a member of the Missouri State Medical Association and a Fellow of the American Medical Association.

He was widely known and highly esteemed as a physician; he was loved by his patients his very presence in a sick room was soothing. He was also loved by the people in his community. He was kind and gentle and it is doubtful if there is another person in his community who

could be missed more than this fine physician.

Dr. Brown is survived by his widow, Mrs. Anna Brown, one daughter, one sister and two brothers.

EDWARD N. CHASTAIN, M.D.

Dr. Edward N. Chastain, Butler, a graduate of the Missouri Medical College, 1881, died at his home after several days' illness, January 5, aged 75.

Dr. Chastain was born in Benton County, Missouri, and moved with his family to Bates County when he was 15 years old. He received his preliminary education in the University of Missouri and took postgraduate work at the New York Polyclinic and the University of Pennsylvania. Upon completing his medical work he began his practice in southwestern Bates County where he remained for twenty-five years, moving then to Butler.

He was a member of the Bates County Medical Society and was president of the society in 1920 and again in 1923. For many years he was Councilor for the Sixteenth District of the State Association. He was a Fellow of the American Medical Association.

Dr. Chastain enjoyed a large medical practice in his community where he was recognized as one of the leading physicians for many years. He took an active part in public and church affairs. As a friend, counselor and physician, his advice was sought by many and his death has caused grief to a host of friends.

Dr. Chastain is survived by his widow, two sons and a daughter.

Resolution Adopted by Bates and Vernon-Cedar County Medical Society

The Society adopted the following resolution on the death of Dr. E. N. Chastain, Butler:

WHEREAS, The Great Ruler has summoned our Brother Physician, Dr. E. N. Chastain, from our midst, the medical profession has lost one of its most honored members, the county an esteemed, high-minded citizen, his family a husband and father to whose career they can justly point with pride.

Resolved, That we send a copy of this resolution to his family, the press, the State JOURNAL, and that a copy be spread on the minutes of the Society.

OTTA CLARENCE O'KELL, M.D.

Dr. Otta C. O'Kell, Excelsior Springs, a graduate of Northwestern Medical College, St. Joseph, 1893, died of heart disease, February 2, aged 62.

Dr. O'Kell was born at Morning Sun, Iowa. When eighteen he moved with his parents to Hamilton, Missouri, and attended the Kidder Institute preceding his medical studies.

Dr. O'Kell began his medical career in Ray County and practiced there for eight years. In

1900 he moved to Excelsior Springs and had been in continuous practice there except for some time spent studying in Vienna in 1909 and eight months during the World War. He was a captain in the medical corps at Fort Leavenworth and at Camp Knox, Kentucky, during the war and was actively engaged in American Legion affairs being Post Commander of the Service Post No. 119 at the time of his death.

Dr. O'Kell was progressive and ever enthusiastic about his profession but was also active in various civic enterprises. He had held public offices as a member of the health board, member of the library board and was a commissioner of the Excelsior Springs Special Road District. He took great interest in church affairs. He was a thirty-second degree Mason and kept in close touch with the affairs of that organization.

Dr. O'Kell was well esteemed as a physician and as a citizen and a host of friends mourn his death. He is survived by his widow, one son and one brother.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL FOR 1932

(UNDER THIS HEAD WE LIST SOCIETIES WHICH
HAVE PAID DUES FOR ALL THEIR MEMBERS)

HONOR ROLL

Ste. Genevieve County Medical Society,
December 16, 1931.

Miller County Medical Society, Decem-
ber 23, 1931.

Mercer County Medical Society, Decem-
ber 24, 1931.

Camden County Medical Society, January
5, 1932.

Johnson County Medical Society, Janu-
ary 20, 1932.

Dent County Medical Society, January 22,
1932.

Macon County Medical Society, February
10, 1932.

MISSOURI STATE MEDICAL ASSOCIA- TION—75TH ANNUAL SESSION

Jefferson City, May 23, 24, 25, 26, 1932

PRELIMINARY PROGRAM

Guests

Bell, E. T., Minneapolis, Minn.: A Clinical and
Pathological Study of Primary Hypertension.

In Symposium on Diseases of the Kidney: A
Clinical and Pathological Study of Glomerulone-
phritis and Nephrosis.

Cary, Edward H., Dallas, President-Elect, Ameri-
can Medical Association: Title to be announced.

James, Mr. J. J., Kansas City: Presence of Syph-
ilis in Compensation Cases From the Standpoint of
the Workmen's Compensation Commission. (In
Symposium on Syphilis.)

Lee, Burton J., New York City: The Treatment of
Cancer of the Breast From the Standpoint of the
Radiologist: Treatment of Metastatic Changes. (In
Symposium on Carcinoma of the Breast.)

Middleton, Wm. S., Madison, Wis.: Syphilis of
the Circulatory System. (In Symposium on Syph-
ilis.)

Symposiums

Symposium on Diseases of the Ear, Nose and
Throat:

Connell, E. S., Kansas City: Sinus Disease.

Lyman, H. W., St. Louis: Mastoid Disease.

Sauer, W. E., St. Louis: Sinus Thrombosis.

Gilkey, Harry M., Kansas City: Thymic Deaths.

Symposium on Carcinoma of the Breast:

Jackson, Jabez N., Kansas City: Clinical Mani-
festations of Diseases of the Breast.

Ogilvie, John H., Kansas City: The End-Re-
sults in the Surgical Treatment of Carcinoma
of the Breast.

Lockwood, Ira H., Kansas City: Roentgen Ray
Examination of the Breast.

Lee, Burton J., New York City: The Treatment
of Cancer of the Breast From the Standpoint
of the Radiologist: Treatment of Metastatic
Changes.

Symposium on Diseases of the Kidney:

Bell, E. T., Minneapolis, Minn.: A Clinical and
Pathological Study of Glomerulonephritis and
Nephrosis.

Major, Ralph H., Kansas City: Treatment of
Nephritis.

Caulk, John R., St. Louis: Tuberculosis of the
Kidney.

Burford, C. E., St. Louis: Tumors of the Kid-
ney.

Hoffmann, R. Lee, Kansas City: Stones and
Pyogenic Infections.

Symposium on Syphilis:

Middleton, Wm. S., Madison, Wis.: Syphilis of
the Circulatory System.

Schwab, Sidney I., St. Louis: Syphilis of the
Nervous System.

O'Reilly, Archer, St. Louis: Syphilis of the Os-
seous System.

Dennie, Charles C., Kansas City: Hereditary
Syphilis.

James, Mr. J. J., Kansas City: Presence of
Syphilis in Compensation Cases From the
Standpoint of the Workmen's Compensation
Commission.

Stookey, Paul F., Kansas City: Presence of
Syphilis in Compensation Cases From the
Standpoint of the Physician.

Scientific Papers

Allen, Edgar, Ph.D., Columbia: Hormone Control
of Changes in the Endometrium During the Men-
strual Cycle.

Anderson, A. L., Springfield: The Value of Rou-
tine Basal Metabolism in the Examination of Pa-
tients.

Chandler, John F., Oregon: Dispensing as an
Art.

Conrad, A. H., St. Louis: Precancerous Lesions of
the Skin; Illustrated with Lantern Slides.

Elliott, B. Landis, Kansas City: The Connections
and Diseases of the Cerebellum.

Emmert, Fred, St. Louis: The Care of the Breasts During Pregnancy and Puerperium; Illustrated with Lantern Slides.

Engman, M. F., Jr., St. Louis: The Pathogenesis of Acne Vulgaris.

Ginsberg, A. Morris, Kansas City: Fever in Thyrotoxicosis.

Glassberg, B. Y., St. Louis: Diabetes Mellitus.

Glenn, E. E., Mount Vernon: Types of Onset in Pulmonary Tuberculosis.

James, Joseph D., Springfield: Improved Hospital Service and the Public.

Johnson, Emsley T., Kansas City: Cinchophen Poisoning: Clinical and Experimental Evidence.

Kauffman, Daniel E., St. Louis: Arthritis of the Knee.

Kramolowsky, H. H., St. Louis: Urological Diagnosis (Motion Picture).

Lamb, H. D., St. Louis: Foci of Attack in the Prevention of Blindness in Missouri.

Lemoine, A. N., Kansas City: Advances in Ophthalmology.

Lowenstein, Paul S., St. Louis: Respiratory Infections That Mimic Appendicitis: Their Importance to the Surgeon.

Luton, Sinclair, St. Louis: The Clinical Use of Digitalis.

McAlester, A. W., Jr., Kansas City: Headaches of Ocular Origin.

Munsch, A. P., St. Louis: Arthritis.

Myers, B. L., Kansas City: Peripheral Burn, Pathology and Treatment.

North, E. P., and Jones, Vincent L., St. Louis: Retinal Detachment Subsequent to Proliferative Changes and Pigment Epithelium Simulating Neoplasm.

Ockerblad, N. F., Kansas City: The Correction of Vesical Neck Obstructions by Means of a Resectoscope.

Padgett, Earl, Kansas City: Surgery in the Treatment of Pulmonary Tuberculosis.

Pflaum, C. C., Columbia: A Postmortem Analysis as to Etiology in Seven Hundred Forty-Two Cases of Peritonitis.

Post, M. Hayward, St. Louis: The Incidence of Incipient Cataract in Ophthalmic Practice: Consideration of Its Treatment.

Rainey, Warren R., St. Louis: Colostomy; illustrated with lantern slides.

Smith, E. Sanborn, Kirksville: Effects of Ephedrin on the Narcoleptic.

Spector, H. I., St. Louis: Recent Advances in the Etiology and Treatment of Acute and Chronic Suppuration of the Lungs.

Stryker, G. V., St. Louis: Epithelioma of the Skin.

Tobias, Norman, St. Louis: The Modern Management of Acne Vulgaris.

Tripodi, A. M., and Sherwin, Charles F., St. Louis: Experimental Transplantation of the Pancreas Into the Stomach. (Preliminary Report.)

ATCHISON AND HOLT COUNTY MEDICAL SOCIETY

The Atchison and Holt County Medical Societies held a joint meeting at Craig, January 28. The meeting convened at 2 p. m. with eighteen members present.

Dr. P. T. Bohan, Kansas City, who came through the courtesy of the Postgraduate Committee of the State Association, was our guest and presented a paper on "Focal Infection in Relation to Systemic

Disease," in a most convincing and instructive manner. Specimens were exhibited and lantern slides were shown evidencing the progress made in the study of this important subject. Dr. Bohan was given a rising vote of profound appreciation.

Those present took part in a lively discussion following the lecture which added materially to the interest of the meeting.

It was decided that other joint meetings should be held in the future and the secretaries were instructed to make the necessary arrangements to accomplish this purpose.

OLIVER C. GEBHART, M.D., Secretary.

BUCHANAN COUNTY MEDICAL SOCIETY

The regular meeting of the Buchanan County Medical Society was held at the St. Francis Hotel, St. Joseph, January 20, at 6:30 p. m. A banquet at which seventy-six were present preceded the scientific meeting. Dr. A. E. Burgher, St. Joseph, the president, called the meeting to order. The guest of the Society was Dr. W. T. Coughlin, St. Louis, who came through the courtesy of the Postgraduate Committee of the State Association.

The usual order of business was suspended and Dr. Jacob Geiger, St. Joseph, emeritus professor of surgery in the St. Louis University Medical School, introduced Dr. Coughlin, professor and head of the department of surgery in the St. Louis University Medical School, who delivered an address on "The Present Status of Intracranial Surgery." The address was well received and showed that its author was a master in his line.

The Society hopes to have Dr. Coughlin again for it was a pleasure to listen to a man of his ability. A vote of thanks was extended to the Postgraduate Committee of the State Medical Association for sending Dr. Coughlin to our meeting.

EMMETT F. COOK, M.D., Secretary.

DUNKLIN COUNTY MEDICAL SOCIETY

The Dunklin County Medical Society meeting was called to order by the president, Dr. W. L. Gossage, Kennett, at Kennett, January 19, at 7 p. m.

Dr. J. D. Van Cleve, Malden, read an excellent paper on "The History of the Dunklin County Medical Society from 1905 to 1932." Many interesting points were reviewed from the minutes of the past in the making of its history. In the twenty-seven years of the Society's existence it had been very active except for two years when reorganization took place. Four of the charter members are still among the most active members. Dr. Paul Baldwin, Kennett, has had the honor of being the president four different times in its history; Dr. T. J. Rigdon, Kennett, has been its president twice and Dr. John D. Van Cleve, Malden, has been secretary during exactly half of the Society's existence and has had the honor of being elected again for that position for 1932.

The election of officers developed a friendly rivalry between Dr. W. L. Gossage, Kennett, and Dr. Edwin G. Cope, Honersville, which resulted in the reelection of Dr. Gossage by one vote, as president. Dr. Cope was elected vice president. Dr. T. J. Rigdon, Kennett, was elected secretary-treasurer; Dr. J. D. Van Cleve, Malden, delegate, and Dr. S. T. Smith, Holcomb, alternate. Dr. Wheeler Davis, Kennett, who has served as censor for the last year was reelected for three years, Dr. A. Glenn Davis, Senath, for two years and Dr. U. V. A. Presnell, Kennett, for one year.

A round-table discussion concerning the \$9.00 dues for the County and State Associations was held. It has been intimated by some that the dues seem too high. All members present freely discussed the subject and concluded that the dues were not too high for the actual value received. It is the belief of the Society that those who so speak are not interested in Society work and would not be active at one third the price. The value of being in good standing with our county doctors and the best doctors throughout the State is worth the price alone. THE JOURNAL was mentioned as a most valuable asset, having many articles on technic and treatment that have proved worth the price in the last year.

The value of the postgraduate lectures furnished under the guidance of the Postgraduate Committee of the State Association in conjunction with the Five-County Medical Group has in itself been far more valuable than the annual dues, was the consensus. The expense of paying teachers, researchers and specialists cannot be kept up by the Missouri State Medical Association without the aid of the various county societies. They are most invaluable and it was the decision that value was received tenfold for what is given.

The president, Dr. W. L. Gossage, Kennett, announced the plans for two scientific and social meetings, one in February and one in July. The first will be for the purpose of boosting the March 8 meeting of the Five-County Group which will be a tuberculosis program sponsored by the Missouri Tuberculosis Association for the laity and profession at Poplar Bluff and which appears to offer a great educational and scientific advantage in learning of that disease. The July meeting will be in preparation of a second meeting of the Five-County Group. The later meeting will be in August and this scientific program will be preceded by a fish fry. It is the plan to hold a late December meeting, the program to be determined at a later date.

Numerous other subjects were discussed and near the midnight hour the meeting adjourned until further notice sometime in February.

JOHN D. VAN CLEVE, M.D., Secretary.

FRANKLIN COUNTY MEDICAL SOCIETY

The officers of the Franklin County Medical Society for 1932 are as follows: President, Dr. J. P. Dunigan, Sullivan; vice president, Dr. W. P. Mattox, Sullivan; secretary-treasurer, Dr. H. A. May, Washington; delegate, Dr. H. A. May, Washington; alternate delegate, Dr. B. E. Mankopf, Washington.

H. A. MAY, M.D., Secretary.

PEMISCOT COUNTY MEDICAL SOCIETY

At the January 12 meeting of the Pemiscot County Medical Society the following officers were elected for 1932: President Dr. Fred L. Ogilvie, Caruthersville; vice president, Dr. George W. Phipps, Caruthersville; secretary-treasurer, Dr. W. R. Limbaugh, Hayti; delegate, Dr. J. B. Luten, Caruthersville.

W. R. LIMBAUGH, M.D., Secretary.

HOWELL-OREGON-TEXAS COUNTY MEDICAL SOCIETY

The Howell-Oregon-Texas County Medical Society met at West Plains on January 21.

Dr. J. F. Elder, Van Buren, field agent of the United States Public Health Service, was the guest of the Society and gave a splendid talk on "The Prevention, Diagnosis and Treatment of Diphtheria,"

and also a few suggestions as to the diagnosis and treatment of scarlet fever. The use of toxin-antitoxin and toxoids as immunizing agents were points brought out in the address. He stated that he feared later developments would prove that the two-dose use of toxoid is not sufficient. In the treatment of diphtheria he advocated large doses of antitoxin, 20,000 to 40,000 units, in his experience, obtaining the best results.

This address was followed by a general discussion and many suggestions of timely interest were brought out.

The following officers were elected for the current year: President, Dr. H. A. Thompson, Lanton; vice president, Dr. J. R. Womack, Houston; secretary-treasurer, Dr. A. H. Thornburgh, West Plains; delegates, Drs. R. E. Hogan, West Plains, and Leslie Randall, Licking; alternate delegates, Drs. P. D. Gum, West Plains, and J. R. Womack, Houston.

The following were present: Dr. J. F. Elder, Van Buren; Drs. J. W. Bingham, P. D. Gum, R. E. Hogan, R. A. Sparks, A. H. Thornburgh and Lee F. Toney, of West Plains; Drs. Frank N. Saville and J. C. B. Davis, Willow Springs; Dr. J. F. Gullie, Koskonong; Dr. J. R. Womack, Houston.

P. D. GUM, M.D., Secretary.

JASPER COUNTY MEDICAL SOCIETY

The meeting of the Jasper County Medical Society was called to order at Joplin, January 19, with seventeen members and eight visitors present.

The application of Dr. Homer E. Byrd, Carthage, was approved by the board of censors and upon vote by ballot he was unanimously elected a member.

The scientific program was presented by Dr. G. Wilse Robinson, Jr., Kansas City, who talked on "The Intravenous Use of Glucose in Neuropsychiatric Conditions." He pointed out that disturbance in function of the central nervous system is often due primarily to the occurrence of edema. Since the central nervous system, particularly the brain, is enclosed in a rigid container which allows little expansion the symptoms may be out of proportion to the amount of edema. Obviously, therefore, any treatment which would tend to reduce the edema would tend to restore the function. He called attention to earlier methods of treatment which were limited to spinal puncture and tended toward herniation of the medulla into the foramen magnum, and to decompression which constitutes a major operation. More recently the use of hypertonic solutions was developed and observation has shown that of the various substances used a 50 per cent glucose, where properly buffered, is the one of choice. Dr. Robinson emphasized the fact that this procedure is of little use in chronic cases and has its best effect in the acute stages.

The paper was discussed by Drs. Barson and Chenoweth of Joplin and the discussion closed by Dr. Robinson.

Meeting of January 12

The January 12 meeting was called to order by the new president, Dr. J. E. Douglass, Webb City, with twenty-eight members and fourteen visitors present. The minutes of the previous meeting were read and approved.

The application of Dr. Homer E. Byrd, Carthage, was read and referred to the board of censors.

Letters of appreciation from Mrs. C. C. Cummings and family and Mrs. H. C. Powers and family were read by the secretary.

This meeting was held in conjunction with the course in orthopedic and traumatic surgery given

under the auspices of the Extension Department of Oklahoma University. The speaker, Dr. C. B. Francisco, Kansas City, gave the scientific paper entitled, "The Diagnosis and Treatment of Anterior Poliomyelitis." He emphasized the point that if a diagnosis can be made before paralysis occurs convalescent serum usually benefits. He urged that all communities strive to have convalescent serum quickly available for immediate use. His talk was informally presented and resulted in considerable discussion.

The following resolutions of respect on the death of Dr. H. C. Powers, Joplin, were read by the committee on resolutions and approved:

WHEREAS, It has pleased the Great Physician to remove from our midst, Dr. Herbert Clifton Powers, be it

Resolved, That in his being taken away this Society has lost one of its most active and honored members, and the community a progressive and beloved citizen, and be it

Resolved, That we express our sympathy to the family and direct that a copy of these resolutions be spread on the minutes of the Society and a copy sent the family of Dr. Powers.

LEROY W. BAXTER
ROBERT L. NEFF
H. D. MCGAUGHEY
Committee

MARION COUNTY MEDICAL SOCIETY

The largest meeting in the history of the Marion County Medical Society was held at Hannibal, Friday, January 8, at 8:00 p. m. A 6 o'clock dinner in the Silver Room of the Mark Twain Hotel preceded the session. Fifty members and guests attended.

The scientific program consisted of a symposium on pneumonia presented by three St. Louis physicians who were sent to us by the Postgraduate Committee of the State Association, Drs. Paul C. Schnoebelen, J. E. Cook and Paul J. Zentay.

Dr. Schnoebelen discussed "The Correlation of the Clinical and Roentgenological Findings in the Diagnosis of Pneumonia."

Dr. Cook read an interesting paper on "The Treatment of Pneumonia in the Adult."

"The Treatment of Pneumonia in the Child" was the subject of Dr. Zentay's talk.

The Society was very much pleased with this presentation. Each paper was freely discussed.

The following officers will serve during 1932: President: Dr. C. W. Hamlin, Palmyra; vice president, Dr. E. R. Motley, Hannibal; secretary-treasurer, Dr. F. E. Sultzman, Hannibal; delegate, Dr. W. F. Francka, Hannibal; alternate delegate, Dr. J. W. Hardesty, Hannibal. Board of censors, Dr. H. L. Banks, Hannibal (term expires, 1932); Dr. J. C. Chilton, Hannibal (term expires, 1933); Dr. E. T. Hornback, Hannibal (term expires, 1934).

C. W. HAMLIN, M.D., Secretary.

RANDOLPH-MONROE COUNTY MEDICAL SOCIETY

December Meeting

The annual election of officers for Randolph-Monroe County Medical Society resulted in the following being elected: President, Dr. L. O. Nickell, Moberly; vice president, Dr. Jesse Maddox, Moberly; secretary-treasurer, Dr. F. L. McCormick, Moberly; delegate, Dr. C. H. Dixon, Moberly; alternate delegate, Dr. E. W. Shrader, Moberly. Board of censors, Dr. T. S. Fleming, Moberly (term expires, 1933); Dr. C. C. Smith, Moberly (term expires, 1934).

Meeting of January 12

The Randolph-Monroe County Medical Society met in regular session at Moberly, Tuesday, January 12, at 8:30 p. m. The meeting was called to order by the president, Dr. L. O. Nickell, Moberly. The minutes of the last meeting were read and approved.

Dr. Otto K. Megee, Moberly, gave an excellent address on "Some External Eye Conditions Met With in General Practice."

A general discussion followed. Dr. Megee's paper was appreciated by all the members. The inclement weather prevented a larger attendance. The absent members missed quite a treat.

After the session the members had luncheon. Everyone had a very enjoyable time at this first meeting of the new year. The following were present: Drs. P. C. Davis, C. K. Dutton, T. S. Fleming, H. C. Griffith, L. E. Huber, F. L. McCormick, Jesse Maddox, O. K. Megee, L. O. Nickell, M. R. Noland, C. C. Smith and R. D. Streeter, of Moberly.

F. L. MCCORMICK, M.D., Secretary.

SALINE COUNTY MEDICAL SOCIETY

The Saline County Medical Society has elected the following officers for 1932: President, Dr. George A. Aiken, Marshall; vice president, Dr. C. W. Caldwell, Slater; secretary-treasurer, Dr. S. P. Simmons, Marshall; delegate, Dr. F. A. Howard, Slater; alternate delegate, Dr. L. S. James, Blackburn.

S. P. SIMMONS, M.D., Secretary.

NODAWAY COUNTY MEDICAL SOCIETY

The first regular meeting of the Nodaway County Medical Society for 1932 was held in the lecture room of St. Francis Hospital, Maryville, on January 8. At the request of Dr. C. C. Cummins, the meeting was called to order at 7:45 p. m. by Dr. Charles T. Bell, who introduced and welcomed Dr. W. M. Hindman, Burlington Junction, as president for the current year. The following members were present: Drs. C. T. Bell, L. E. Dean, C. V. Martin, R. C. Person, Jack Rowlett and Wm. Wallis, Jr., of Maryville; Dr. W. M. Hindman, Burlington Junction; Dr. Charles D. Humbert, Barnard. The guests were: Drs. Jabez N. Jackson and John H. Ogilvie, of Kansas City; representing the Postgraduate Committee of the State Association, Plomer J. Gustin, Bedford, Iowa; J. M. Boyles, Conception Junction; Hiram Day, Maryville, and Drs. Earl Braniger and Jesse Miller, dentists of Maryville, and several Sisters from the hospital staff.

Dr. C. T. Bell moved that the informal fortnightly Thursday dinners be changed to monthly dinners to be held on the second Friday of each month at 6:00 p. m. The motion was seconded by Dr. C. V. Martin and carried.

Dr. Martin proposed the following amendment to the by-laws, to be voted on for adoption at the next regular meeting:

The regular meetings of the Society shall be held on the second Friday of each calendar month, and the meetings shall be called to order at 7:45 p. m. Five members shall constitute a quorum.

Dr. C. D. Humbert called the Society's attention to the fact that next November will mark the sixtieth anniversary of the Society's organization and suggested that plans be started now for a celebration. The subject was discussed by Dr. Dean but no action was taken.

The meeting was then turned over to our Kansas City guests.

Dr. Jabez N. Jackson read a carefully prepared paper on "Carcinoma of the Breast," placing much emphasis on the dictum that radical operative therapy should be employed before a clinical diagnosis can be demonstrated.

Dr. John H. Ogilvie presented a correlated lecture on "Chronic Cystic Mastitis." He reviewed the various theories of the etiology of this condition and stressed the presence of pain as the diagnostic criterion. Both of these essays were amply illustrated by excellent lantern slides and were received with much interest by the audience.

CHAS. D. HUMBERD, M.D., Secretary.

VERNON-CEDAR COUNTY MEDICAL SOCIETY

The Vernon-Cedar County Medical Society met in the office of the Chamber of Commerce, Nevada, December 31, 1931, with nine members present. Dr. E. H. Liston, Nevada, president, called the meeting to order.

The secretary, Dr. J. T. Hornback, Nevada, read his report for 1931.

The applications for membership of Drs. Charles H. Orr, Harwood; F. A. Brown, Greenfield, and F. A. Martin, Nevada, were reported favorable by the board of censors and the physicians were elected to membership.

The annual election of officers for 1932 resulted in the following being elected: President, Dr. F. M. Grogan, Nevada; president-elect, Dr. J. R. Williams, Eldorado Springs; secretary-treasurer, Dr. L. L. Cooper, Nevada; delegate, Dr. T. B. Todd, Nevada; alternate delegate, Dr. A. G. Altham, Sheldon. Board of Censors, Dr. W. L. Davis, Nevada (term expires, 1932); Dr. J. T. Hornback, Nevada (term expires, 1933); Dr. J. W. Dawson, Eldorado Springs (term expires, 1934). Member, Auxiliary Committee on Public Policy, Dr. E. H. Liston, Nevada.

Dr. C. W. Musser, Metz, has been elected an Honor member.

At the suggestion of Dr. F. M. Grogan, Nevada, the Society extended its thanks and appreciation to Dr. J. T. Hornback for his long and tireless work as secretary.

Joint Meeting of Bates and Vernon-Cedar County Medical Societies

The meeting of January 14 was held at State Hospital No. 3, Nevada, at 7:30 p. m. Fourteen members, five visitors and several members of the Woman's Auxiliary were present. The guests were Drs. Sam Snider and E. P. Heller, of Kansas City, the latter representing the Postgraduate Committee of the State Association.

Dr. Snider discussed "Bronchial Function in Pulmonary Tuberculosis."

Dr. Heller read an interesting paper on "New Appliances and New Methods for the Treatment of Fractures," and illustrated his subject with lantern slides. This presentation created a lengthy discussion.

The secretary read the following resolution on the death of Dr. E. N. Chastain, Butler, which on motion was adopted by the Society:

WHEREAS, The Great Ruler has summoned our Brother Physician, Dr. E. N. Chastain, from our midst, the medical profession has lost one of its most honored members, the county an esteemed, high-minded citizen, his family a husband and father to whose career they can justly point with pride.

Resolved, That we send a copy of this resolution to his family, the press, the State JOURNAL, and that a copy be spread on the Minutes of the Society.

Following adjournment at 9:45 p. m. refreshments were served.

L. L. COOPER, M.D., Secretary.

WOMAN'S AUXILIARY

CASS COUNTY AUXILIARY

The Woman's Auxiliary to the Cass County Medical Society held a benefit bridge at the home of Mrs. M. P. Overholser, Harrisonville, December 10, 1931. There were about forty guests from Harrisonville, Garden City, Adrian, Archie, Drexel, Freeman and Pleasant Hill. The proceeds will be used to supply Hygeia to the Cass County public schools. Mrs. Overholser received the following note from Miss May Bowlin, county superintendent of schools:

I take this means of expressing to you my personal thanks and the thanks of the teachers and boys and girls of Cass County for the interest you have shown in placing *Hygeia* in the schools of the county. It has been most difficult to find satisfactory health material for the requirements outlined in our State course of study and we are indeed most grateful for the additional help which we shall now be able to secure from the contents of this valuable magazine.

COLE COUNTY AUXILIARY

In October, 1931, the Cole County Auxiliary held a Public Relations meeting at the home of the president, Mrs. S. P. Howard, Jefferson City. Mr. Scott Johnson, state sanitary engineer, was the speaker and talked to the members and also the presidents of the women's clubs and organizations in Jefferson City on "Sanitary Milk." At the close of the program tea was served.

JOHNSON COUNTY AUXILIARY

The Johnson County Auxiliary was entertained at the home of Dr. and Mrs. W. R. Patterson, Warrensburg, the evening of December 16, 1931, during the meeting of the Johnson County Medical Society. The Patterson home was prettily decorated with Christmas candles, evergreens, and appropriate flowers. Refreshments were served to about forty guests. Mrs. Patterson was assisted by Mrs. H. F. Parker, Mrs. R. F. McKinney and Mrs. J. L. Essig, of Warrensburg. Later in the evening the physicians joined their wives at the Patterson home.

WOMAN'S AUXILIARY TO THE JASPER COUNTY MEDICAL SOCIETY

The Jasper County Auxiliary met jointly with the Jasper County Medical Society at Joplin on November 10. The following officers were elected to serve for 1932: President, Mrs. U. G. Hoshaw, Joplin; first vice president, Mrs. R. M. Stormont, Webb City; second vice president, Mrs. K. B. Huffman, Joplin; secretary, Mrs. J. L. Sins, Joplin; treasurer, Mrs. B. A. Dumbauld, Webb City.

LAFAYETTE COUNTY AUXILIARY

The Woman's Auxiliary to the Lafayette County Medical Society was the guest of the Society at Higginsville, December 29, 1931. A banquet preceded the meeting. Those present were: Mrs. E. L. Johnston, Concordia; Mrs. C. T. Ryland, Mrs. J. Q. Cope, Mrs. A. J. Chalkley and Mrs. T. R. Butler, of Lexington; Mrs. J. W. Horner, Alma; Mrs. Lewis Carthrae, Jr., Corder; Mrs. W. E. Martin, Mrs. R. C. Schooley, Mrs. Lightner and Mrs. Barclay, of Odessa; Mrs. W. E. Koppenbrink, Mrs. D. C. Davis,

Mrs. W. C. Webb, Mrs. W. A. Braecklein, Mrs. J. DeVoine Guyot, and Mrs. B. F. Bowline, of Higginsville.

LAFAYETTE COUNTY AUXILIARY

The Lafayette County Auxiliary meets every month at the homes of the members. On numerous occasions our members have been called on to give health talks before the Parent-Teachers' Association and other clubs. We have placed Hygeia in all rural grade and high schools in the county. Mrs. C. T. Ryland, of Lexington, is Hygeia chairman.

The members assisted in a clinic for crippled children in Lexington.

We have outlined a program for the year which we think will help increase the attendance. We have sent in our assessment for the State Year Book and a donation to the Andrew Walker McAlester Memorial Foundation. Mrs. J. DeVoine Guyot, Higginsville, Chairman of Courtesy of the State Auxiliary, is a member of our Auxiliary.

In July the members of the Lafayette County Medical Society and their wives met at Alma and surprised Dr. and Mrs. J. W. Horner with a basket picnic. Dr. Horner is the oldest member of the Medical Society.

On December 29, 1931, the Higginsville physicians entertained the members of the Medical Society and their wives with an annual dinner celebrating the anniversary of the Society.

MRS. E. L. JOHNSTON, President.

BOOK REVIEWS

SURGICAL NURSING. By Hugh Cabot, M.D., C.M.G., F.A.C.S., Senior Consultant, Mayo Clinic, Rochester, Minn., and Mary Dodd Giles, B.S., R.N., Associate Professor of Nursing Education, Vanderbilt University. Illustrated. Philadelphia and London: W. B. Saunders Company. 1931. Price \$3.00.

This volume on surgical nursing by Dr. Cabot and Miss Giles is very complete in every respect. Each subject is dealt with in concise detail and in a manner easy to understand and giving excellent information on the care of the patient before and after operation. The book is well illustrated and up to date in all modern methods of medication and treatment.

A. M. Z.

AN INTRODUCTION TO NEUROLOGY. By C. Judson Herrick, Professor of Neurology in the University of Chicago. Fifth edition, thoroughly revised. Philadelphia and London: W. B. Saunders Company. 1931.

The fifth edition of this standard textbook like its predecessors is an excellent reference work and simplified outline of the anatomy and physiology of the nervous system.

Much new material has been added, especially in reference to the sympathetic nervous system and the emotions. This material has been brought up-to-date. The chapters on neurons, reflex circuits and general physiology have been entirely rewritten.

The great advantage of this book lies in its concise completeness; no surplus reading matter is present and nothing has been omitted. It is a textbook I would recommend for any group.

G. W. R.

THE DIAGNOSIS AND TREATMENT OF VENEREAL DISEASES IN GENERAL PRACTICE. The Routine Management of Syphilis and Gonorrhoea Employed in the St. Thomas' Hospital Venereal Diseases Department. By L. W. Harrison, D.S.O., M.B., Ch.B., F.R.C.P.E., Brevet Colonel R.A.M.C., and K.H.P. (Ret.); Director of Venereal Department, St. Thomas' Hospital; etc. With a chapter on The Medico-Legal Aspects, etc. By F. G. Crookshank, M.D., F.R.C.P., etc. Fourth Edition. Oxford University Press. American Branch, 114 Fifth Avenue, New York City. 1931.

The first edition of this work was published in 1918 and proved a success from the start. This edition, the fourth, is a decided improvement over all the others. The article on the treatment of syphilis has been entirely rewritten and represents the best in English practice which, needless to say, is as good as the best in the world. The chapter on bismuth salts and their pharmacology is well written and timely; the earnest recommendation of a glucose solution for dissolving neoarsphenamine for intravenous administration to prevent arsphenamine reactions meets with the hearty approval of the reviewer.

The discussion on gonorrhea and its treatment in men and women is terse, conservative and very well done. The watchword throughout is gentleness and ever more gentleness in the care and treatment of this tormenting malady.

There is a good chapter on laboratory examinations and their evaluation. Part of the chapter is devoted to the detection of the spirochetes. It is neatly illustrated with woodcuts and microphotographs by Mr. E. J. Barnard, president of the Royal Microscopical Society.

There are three appendices: (1) Instruments and appliances commonly used in the diagnosis and treatment of venereal diseases; (2) stains used for demonstrating microorganisms, and (3) sketch of the principles of complement-fixation tests of microbic infection, the Wassermann and other serum tests for syphilis and the Lange's and other colloidal tests of the cerebrospinal fluid.

The book is clearly written and shows the author is able and conservative, has a wide acquaintance with venereal diseases, is a careful clinical observer and minute and orderly in recording his observations. The book is highly recommended not only to practitioners for whom it was written but to ultra specialists as well for they will find much that is new and valuable in it. The type is legible and the paper good; it is illustrated throughout with woodcuts, microphotographs and color plates.

A. R.

THE SURGICAL CLINICS OF NORTH AMERICA. (Issued serially, one number every other month.) Volume 11, No. 6. (Philadelphia Number—December, 1931.) 309 pages with 87 illustrations. Philadelphia and London: W. B. Saunders Company. Per clinic year, February, 1931, to December, 1931. Paper, \$12.00; cloth, \$16.00.

This number completes Volume 11 and contains the index. The contributions are from the physicians and clinics of Philadelphia. A notable section is from the Bronchoscopic and General Surgical Clinic of Drs. Chevalier Jackson and W. Wayne Babcock. Among other contributions are those from the clinics of Dr. John B. Deaver; Drs. Eldridge L. Eliason and V. W. Murray Wright, and Drs. Thomas C. Stellwagen and George J. Muelerschoen.

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E. J. GOODWIN, M.D., Editor
1023 Missouri Building, St. Louis, Mo.
Telephone, Jefferson 5261.

PUBLICATION { J. C. B. DAVIS, M.D., Chairman
COMMITTEE { G. WILSE ROBINSON, M.D.
M. A. BLISS, M.D.

FUNCTIONS AND ACTIVITIES OF THE MEDICAL DEFENSE COMMIT- TEE OF THE MISSOURI STATE MEDICAL ASSOCIATION*

C. E. HYNDMAN, M.D.

ST. LOUIS

Compensation for personal injury or disability has always been recognized at common law. The original purpose of the law was to protect the individual from injury caused by the neglect or carelessness of some one else. It had to do for the most part with master and servant.

The desire to recover compensation for any and all even trivial injuries, no matter what the cause, became so prevalent that the heads of industries were compelled to carry heavy insurance in order to be able to carry on their business. From this condition arose the necessity for the workmen's compensation laws of the present day, each state attempting to form regulations best suited to its particular needs. The greed for personal remuneration gradually spread beyond the master and servant phase and came to include professional men. The ease with which action could be brought and his exposed position have made the physician a target for innumerable suits to secure money on the claim of malpractice.

The four factors that form the basis for filing a malpractice suit are, a dissatisfied patient, a lawyer, another physician and a just ground for recovery. A suit may be filed against a physician without there being the slightest merit in the claim. Malpractice suits are instigated for the most part by one or more of several motives, namely: (1) the desire to avoid payment for the doctor's services; (2) a desire on the part of the patient to acquire money regardless of the justness of the claim prompted by the remarks of a competitor

physician who through malice, egotism or unfamiliarity with the case, gives the patient the impression that he had inferior service at the hands of his physician. It is almost impossible to prosecute a malpractice suit successfully without the assistance of some doctor who for one reason or another is willing to cooperate with the plaintiff's attorney and build up a claim against his fellow-practitioner.

The practice of medicine is an uncertain science, full of unexpected and uncontrollable hazards with the physician inevitably losing in the end. The physicians of today are well trained and skillful. Today thousands of dollars and many years of hard work are required of the young man seeking to practice medicine lawfully, and the standards are constantly being raised. He is the best our modern educational facilities can produce. This intensive training, his skill, long years of self-sacrifice and conscientious work in practice do not make the doctor immune to malpractice suits. An unscrupulous patient with a conniving lawyer who thinks he can persuade a jury to render a verdict in his favor, or by constant annoyance and embarrassment to the physician force him to pay tribute in order to have the case withdrawn are all too often the only basis for a malpractice suit.

The embarrassment and mental anguish that a malpractice suit brings to a physician make almost any doctor feel that he would pay almost anything to have the case dropped, even when he knows that the claim is unwarranted and cannot be proved against him. To compromise in this way, however, only encourages the filing of many other unwarranted suits. A jury of twelve laymen are asked to deliberate for a few hours and decide that a physician has done a certain thing incorrectly, when it took the physician six years of hard work and study to learn what was correct or incorrect. Occasionally these jurors accept their responsibility cheerfully and without batting an eye return a verdict for an amount which would wipe out the physician's life sav-

*Read at a Joint Meeting of the Jackson County Medical Society, the Kansas City Southwest Clinical Society and the Kansas City Bar Association, Kansas City, November 10, 1931.

ings to pay for some alleged condition which was due to no fault of his and was absolutely beyond his control.

The higher courts, however, hold that affirmative proof of negligence is necessary to sustain a claim of malpractice. To quote an opinion of the court in a certain case: "The doctrine of *res ipsa loquitur* does not apply in a malpractice case. Before a patient can secure judgment he must show by affirmative evidence that the physician was unskilful or negligent and that this want of skill or care resulted in injury to the patient. If either element is lacking in the proof, no case has been presented for the consideration of the jury. A physician is not a warrantor of cure. If the maximum *res ipsa loquitur* were applicable and a failure to cure were held to be evidence of negligence on the part of the physician or surgeon causing the bad result, few would be courageous enough to practice the healing art, for they would have to assume financial liability for nearly all the "ills that flesh is heir to." (Ewing vs. Goode, 78 Fed. 442.)

The medical profession has found, as the masters of industry did, that they must provide protection for themselves. In addition to the individual physician protecting himself by carrying indemnity insurance, medical organizations have realized the necessity of lending their organized strength to defend him from unjust claims and allegations.

This task is assumed for the most part by the state organizations. Provision for this is made in various ways in several states. Thirty states have made some provision for defense of its members. In sixteen states an appropriation of from twenty-five cents to six dollars is taken from the individual annual dues. In eleven states the appropriation is made from the general fund. Three states provide optional protection by the payment of a fee varying from two to ten dollars in addition to the annual dues.

The details of this service also vary in different states. Some employ a lawyer or a group of lawyers who handle the entire defense of the members. Others select and pay a competent local attorney. Others, as in Missouri, have a defense committee and place at its disposal a special fund appropriated from the general fund of the State Association. The purpose of this committee is to advise and co-operate with the physician and his attorney in whatever way possible and to render financial assistance where needed. The financial assistance is limited to the amount of \$300 in any one case. Many of our members who have adequate indemnity insurance do not need and

do not ask for financial aid but to the doctor who is not protected it is a very welcome assistance.

The committee on defense shall upon request and in compliance with the conditions set forth in the By-Laws of the Association, aid in the defense of suits for alleged malpractice instituted or threatened against any member of the Association.

Any member in good standing desiring to avail himself of the provisions of this section, shall, within three days after any demand has been made upon him, present his request to the Secretary of the State Association, together with a complete history of the case and the services therein rendered. The committee shall then with the aid of its counsel advise the member up to the time of institution of the suit. Should suit be filed, a copy of the plaintiff's petition must be immediately forwarded to the Secretary of the Association. The committee shall thereupon provide such medical expert and legal services of counsel as may be necessary, but in no case shall the cost to the Association be in excess of \$300 for all such service. The Association does not obligate itself to pay, nor shall it pay in whole or in part, any damages agreed upon in compromise, or awarded after trial, nor shall it pay any of the expenses incident to the taking of depositions nor any of the costs of court.

This service applies to civil malpractice only and does not apply to criminal prosecutions, nor is it available to a member in case a suit is brought jointly against him and a hospital or sanatorium in which he is financially interested.

This is not a white-washing committee to take the position that the doctor is absolutely right, no matter what he does. Its primary purpose is to protect the member against unwarranted claims and blackmail. He is only human and not exempt from an occasional honest error in judgment.

The defense committee has recommended compromise in some cases where there was a possibility that a patient may have suffered from an honest error in judgment by the physician although the courts hold that an honest error of judgment is not actionable.

It is plain, therefore, that in order to be of any substantial assistance the defense committee must have the cooperation of the individual members. There are some things a member can do which will greatly lessen the filing of malpractice suits and materially aid in his defense if that should be necessary.

The first thing is for him to dismiss from his mind the thought that an old friend or patient of many years, no matter how much the

doctor may have done for him or his family, will not sue him. We have a number of such cases on record.

Fractures and injuries of any kind seem to furnish most of the grounds for malpractice suits, so much so that many surgeons consider every fracture a potential suit for damages and refuse to treat them.

It is most important to make a careful and thorough examination at the first visit and obtain an accurate history at the time and keep it on file. Failure to keep written histories is a dangerous practice.

Taking of roentgen ray pictures should not only be advised but insisted upon and these pictures should be kept in the physician's possession. In cases of positive fracture, roentgen ray pictures should be taken at intervals and the patient not discharged until he is completely well and given full instruction as to his condition and as to what precautions he should take. Above all things an off-hand diagnosis of a "strain" or a "sprain" is most dangerous. Every strain should be treated as a fracture until proved otherwise by the roentgen ray. A frank explanation of the condition and what might be expected in the final result as to deformity and disability is far safer than the more comforting and encouraging statement of, "I'll fix that up all right, without any trouble." There are too many things that may occur which are beyond the control of the physician.

The suggestion by the patient for competent consultation should be welcomed and not considered as a reflection upon one's ability or method of handling the case. The complete approval by the consultant of the handling of the case is, of course, most comforting and a timely suggestion of improvement may follow for the benefit of both the doctor and the patient.

Voluntary consultation by a physician with a patient or a family who is under the care of another physician with comment upon the treatment of the case, the details of which he is not thoroughly familiar with, is exceedingly unethical and is productive of a great many unwarranted misunderstandings and litigation. It is most likely that the critic under the same circumstances could not have done better or perhaps not half as well. It is too late to retract one's words in court or after the exact conditions are learned. The harm has been done, the patient's mind has been made up, and one finds himself in the embarrassing position, not only of being asked to appear against a fellow-physician, but of having to retract a statement that he has upon investigation found to be unsound and unwarranted.

All of us cannot be equally expert. All of us cannot do our work under the same conditions. Before criticizing a doctor's work, the conditions, lack of facilities and the disadvantages under which he labored should be considered.

I cannot emphasize too strongly the importance of every physician taking active part in his local medical society. Here he widens his knowledge of accepted treatment and enjoys the advantage of constantly progressing methods. Here he benefits by contact with his fellow-practitioners and friendly interchange of views and experience which help him to carry on his work better, more confidently and more cheerfully.

He should inform himself of the advantages he enjoys in the state and national organizations. It is almost unbelievable how many members of our state medical association know absolutely nothing about the by-law governing our defense committee, how it works and what is expected of them when trouble threatens them.

In conclusion, I believe the best way to help the malpractice situation is to avoid unjust criticism; to be honest with your patient; to do your very best and stick to it; to keep accurate records of cases; to keep in touch with your medical society; to read your State Association by-laws; and to defer forcing collection on a dissatisfied patient who may file a counter suit for malpractice rather than pay his bill, until the statute of limitations applies.

614 Beaumont Medical Building.

COMMON ANOMALIES OF DUODENUM AND COLON: THEIR PRACTICAL SIGNIFICANCE

Statistical data resulting from eight years' combined clinical and roentgen study are presented by JOHN L. KANTOR, New York (Journal A. M. A.), for the following anomalies: (a) transduodenal bands, (b) redundant colon, (c) high cecum, and (d) low cecum. He states that the chief clinical aspects of transduodenal bands are their occurrence in asthenic women, their association with "duodenal migraine," and their mimicry of duodenal ulcer and gallbladder disease. The chief clinical aspects of redundant colon are its occurrence in all builds and both sexes, its association with marked constipation and, less strikingly, with pain and gas. The chief clinical aspects of high cecum are its occurrence in eupeptic sthenic males, and the ectopic position and increased tendency to inflammation of the appendix. The chief clinical aspects of low cecum are its occurrence in asthenic women and its association with headaches and vomiting, and discomfort in the right lower quadrant. The author offers an explanation for the mechanism of the production of the toxic or reflex symptoms in low cecum and summarizes the general significance of digestive anomalies.

ENCEPHALITIS FOLLOWING VACCINATION AGAINST SMALLPOX AND COINCIDENT WITH AN ATTACK OF CHICKENPOX*

REPORT OF A CASE

C. A. W. ZIMMERMANN, M.D.

AND

J. HOWARD COCHRAN, M.D.

CAPE GIRARDEAU, MO.

John H., schoolboy, aged 14, of good habits and normal activity for his age. Estimated weight 90 pounds. Except for two aunts and one uncle who died of tuberculosis there is nothing of importance in the family history.

Past History.—Whooping cough at age 5, measles at age 7, pneumonia at age 8, mumps at age 10, all with uneventful recoveries.

On February 20, 1930, he was vaccinated for the first time against smallpox, a mild epidemic of the disease being abroad. The following day he was sent home from school because of vomiting and mental disturbances. He did not appear to be rational at times. He was drowsy and when aroused would cry and complain of pain in the back. Sometimes complained of frontal headache.

On February 23 he lost consciousness and began having convulsions which occurred at very frequent intervals. He was admitted to the Southeast Missouri Hospital on the afternoon of February 24. Detailed history of February 22 not available.

On admission the patient was in a profound stupor and was having frequent convulsions. The temperature was 105 F., pulse 150, respiration 40. There was rigidity of the neck and a positive Kernig sign, more pronounced on the left side. Brudzinski's sign was positive as well as Babinski's. The patellar tendon reflex was absent on the right side but somewhat exaggerated on the left. The cremasteric reflexes were absent. The pupils were equal but reacted somewhat sluggishly to light. There was marked spasticity of the extremities. There was relaxation of the muscles of the jaw (buccinator and masseter) which allowed the lower jaw to fall and causing a stenotic breathing of rather alarming magnitude. This was promptly overcome by supporting the lower jaw. (In some cases trismus has been reported.) The breathing was quite irregular. Deglutition was greatly disturbed. No evidence of organic disease of heart and lungs. The skin presented some forty to fifty disseminated lesions characteristic of chickenpox. Since there was no prodromal history, the widely disseminated eruption being present in the various stages of papule, vesicle and pustule and finally healing without leaving scars, the final diagnosis of chickenpox was made. The trauma of recent vaccination, undeveloped, was in evidence. The throat presented a diffuse redness but no patches. The tongue was heavily coated. The abdomen presented nothing of interest. The ophthalmologist, Dr. Yount, reported as follows: Pupils well dilated under atropine sulphate; media clear, fundus paler than normal, blood vessels of normal size and course, no tortuosity. Nerve head pale with central portion depressed showing white

cribriform portion of the nerve head. The retinal layer and color were transparent enough to show touches of choroidal layer with no break or atrophy of the retinal or choroidal layers. Cornea clear. Iris normal color, tension normal. Conjunctiva smooth, normal color, no secretion.

A lumbar puncture was performed immediately after admission. The spinal fluid was clear but escaped under considerable pressure and 42 c.c. were withdrawn. The laboratory report follows: Specific gravity 1003, reaction alkaline, cell count 10, direct smear revealed no organisms. Unfortunately the examination was not extended. The white blood count was 8,750. Polymorphonuclear leukocytes 74 per cent, large lymphocytes 2 per cent, small lymphocytes 24 per cent. The urine was acid, specific gravity 1020, albumin one plus, sugar negative, microscopically there were many amorphous urates. After careful consideration of the history, clinical findings and laboratory reports a diagnosis of encephalitis was made. The treatment was wholly symptomatic and supporting. Following the lumbar puncture and the administration of 1/12 gr. morphine hypodermically the convulsions ceased. Fluids were forced, milk with Karo syrup added, fruit juices and water were given freely, necessarily by gavage.

On February 25, the second hospital day, there was little change in the condition except for the absence of convulsions. The temperature and pulse remained high until the afternoon when the temperature dropped to 101 F. and the pulse to 88, respiration 20. The Brudzinski and Kernig signs were still positive. A diarrhea developed during the afternoon which cleared up when the amount of Karo syrup in the milk was reduced. There was involuntary urination which appeared to be an overflow since the bladder was distended. Patient was catheterized for several days following because of retention.

On February 26, the third hospital day, the patient was conscious, could recognize people and objects, but could not speak; he burst into tears when addressed. The temperature dropped to 99 F., pulse 88, respiration 18. Patient for the first time could swallow liquids but with difficulty. The spastic condition of arms did not seem quite so pronounced.

On February 27, the fourth hospital day, the temperature, pulse and respiration were normal. Patient could respond to questions and utter words but the response was very sluggish. There was further improvement in the spastic condition. Kernig's sign still positive; patellar tendon reflexes possibly slightly exaggerated.

On February 28 and for several days thereafter patient complained of severe pain, first in his little finger then on the ulnar aspect of his left forearm. This disappeared gradually.

On March 3 patient could converse well and no longer cried when spoken to. His response however was very sluggish. It seemed to take time to understand what was said; a slow cerebration and not a difficulty of mechanism of speech. He now swallowed solid food without difficulty. Brudzinski sign no longer present; Kernig sign still noted on the left side. A bare trace of spasticity present in arms. From this point improvement was rapid, steady and complete.

Encephalitis, reported to be several centuries old, had renewed interest focused upon it about 1917. The cause was not known then nor is it known now. The English held food poisoning

*Read at the annual meeting of the Southeast Missouri Medical Association, October 7, 8, 1931.

consequent on war conditions responsible and blamed the *Bacillus botulinus* which organism was however soon acquitted. Thereafter it was associated with vaccination and, it appears, with justification.

In April, 1929, Fulgham and Beykirch reported a case of postvaccinal encephalitis and mailed to one of us (Dr. Zimmermann) a reprint. In acknowledging this the comment was added that the condition was perhaps rather a coincidence than one of cause and effect. However, since that time Flexner in treating the subject of "Postvaccinal Encephalitis and Allied Conditions" reviews a number of cases of encephalitis and calls attention to the variation in the symptomatology between postvaccinal encephalitis and other forms, and describes the microscopic variations between them. So, postvaccinal encephalitis appears to be a distinct disease, or at least a disease having a specific etiological factor with the proviso "that the disease may bear a resemblance to the form or forms of encephalomyelitis which occur occasionally in the course of the exanthematous disorders of childhood and in connection with certain rare cases of other infections, both in children and in adults." In another paragraph he includes chickenpox as a precursor.

According to Flexner there are certain features which forcibly attract attention of the clinician in postvaccinal encephalitis, namely; the hyperacute course, high mortality and, in case of recovery, complete restoration to health. The case here reported conformed with the first and last manifestations.

Relative to microscopic changes in the brain (also from Flexner) postvaccinal encephalitis presents characteristic lesions. In the first place, postvaccinal disease is an encephalomyelitis whereas in epidemic encephalitis the pathology is always confined to the brain. In postvaccinal encephalomyelitis the characteristic type of lesion is degenerative, exudative and proliferative, whereas in epidemic encephalitis the lesions are proliferative and infiltrative. Speaking of the disease which is the subject of discussion, Flexner states that the leptomeninges aside from congestion and pin-point hemorrhages are slightly affected. The brain and cord are diffusely affected with the cortex often spared and the lumbar region suffering the more severe lesions.

In considering this subject certain pertinent questions present themselves: Why are so few cases of encephalomyelitis observed? Last spring we had an epidemic of smallpox in southeast Missouri and thousands of people were vaccinated against it. If other cases of

encephalitis developed they have not come to our attention. If anything like a logical number, considering cause and effect, had occurred we should each have had several in our respective practices.

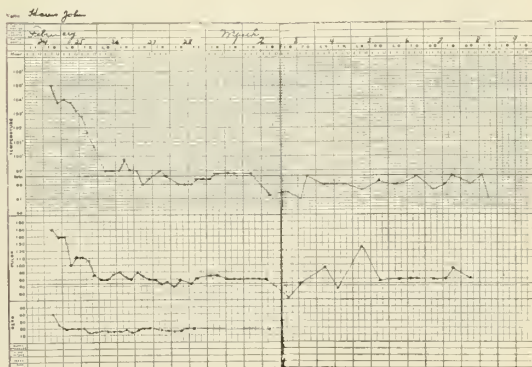
As to vaccine we have observed that the period of incubation of vaccinia last spring was from two to four days shorter and the constitutional effects were more severe than in the past, when the period of incubation ran from five to nine days. If the above experience has been general then indeed could the modern vaccine bear investigation.

Neither the cause of variola nor of vaccinia is known, but the latter is considered the former modified by being passed through the cow. Question: Why does encephalomyelitis not follow variola, a far more violent disease? Does the passage through the cow add an infectious agent; if so, why so recently?

A second question is as to the period of incubation of encephalomyelitis. Flexner, in tables of the Dutch and English cases, shows the average to be between ten and thirteen days, the extremes being two and thirty-four days. So far as we know our case presents the shortest period, namely; one day. When a virus is inoculated directly into the lymph or blood stream a more uniform period of incubation is expected and such a variation as from one to thirty-four days requires scrutiny and explanation.

We confess our inability to explain. In the meantime we look to Flexner of America, Bouman and Bok of Holland, Pette in Germany and McIntosh, Turnbull and Perdrau in England for further enlightenment. We then should pledge ourselves to report all cases, record carefully all clinical and laboratory findings, secure autopsies and have the nerve structures sectioned and examined, that we may be doing our bit toward recognizing perhaps stamping out a violent disease.

521a Broadway
801A Broadway.



MISGUIDED PHILANTHROPY

GEORGE H. MATHAE, M.D.

ST. LOUIS

The modern custom of bequeathing large sums of money and property to charitable institutions and organizations, especially as these pertain to free hospitals, dispensaries and clinics, is a custom to be encouraged. However, in order that the testator may envisage the benefit immediate and remote that would flow from his philanthropy it is suggested that he consult some agency composed of disinterested persons and be governed by the advice offered by this agency in selecting the charity to be endowed and the purpose for which the money is devised.

The testamentary prerogatives of individuals of great affluence are influenced by a consciousness of responsibility to the community or country at large, by dividing and bestowing all or a portion of their philanthropy upon what they personally believe, or through some adviser are led to believe, to be a worthy, needful and propitious cause.

When a testator reaches out for an objective and fails to consult channels other than the contemplated recipients, legatees or custodians of his benevolences, he is given a biased presentation of the desires and ambitions rather than the outstanding needs of the charity to be selected. The ambitions and desires on the part of the recipients may be actuated by selfishness or a desire for aggrandizement, possibly even for the purpose of control and power rather than to provide for a public need.

There is no sphere of activity in the universe in which donors are so frequently ill advised in the selection of the objects of their charity as in the field of medicine. When I say medicine in this connection I do not mean the practitioner of medicine nor the clinician who actually assumes and bears the burden of direct personal medical attention upon the objectives and beneficiaries of philanthropy. I mean an institution, a pile of brick, mortar and stone in which the practitioner holds no greater office than that of a ministerial capacity. His discretionary powers rest only in the application of his art and science to the recipients of the benefaction.

We are not aware of an instance in which an organized body of physicians was consulted as to the prudence or need of a potential testator's benefaction to a purely medical cause. On the contrary, the testator is usually influenced by his individual fancies or by some outside force whose agencies have a capacity to absorb unlimited and never-ending funds well

beyond the legitimate or outstanding needs of the community. Needless to say, an institution with bona fide facilities for research work and workers is to be encouraged, and institutions distinguished by outstanding achievements should be given the greatest support and full consideration by testators. Yet, institutions too impoverished to possess the facilities for research and original investigation, whose greatest achievements rest in teaching the fundamentals and collecting the fruits of other researches and correlating these for teaching purposes, cannot help but realize those limitations. Their enterprises are reducible to the limitations of their commonplace sphere and the community needs. These should be subject to restrictive opinions. It is toward these that philanthropy should be directed through the medium of organized medical bodies. Philanthropists need advice and direction from representatives of scientific medicine when they are considering donations to support free medical clinics, dispensaries and hospitals in order that the money shall be given to the most useful organizations and accomplish the most good in the community. Because benefactors have not been correctly apprised of the saturation point in the building of schools, hospitals and dispensaries, whether corporately controlled or theocratically governed, they need guidance and advice more than discouragement.

The reasons for medical supervision of the philanthropies contemplated for any branch of the healing art are obvious. Many medical institutions actually entice and invite by their methods of administration a class of applicants not entitled to the charity offered. The number of these unworthy recipients grows larger and larger as population increases and includes many who by no stretch of imagination are worthy of the benefits they receive. These institutions, while zealous in endeavoring to cover the need of all worthy indigents, are imprudent in not admitting nor recognizing that the saturation point has been reached in providing clinical material for teaching purposes. When they go beyond that point they exceed their legitimate function in providing medical charity. It is the duty and responsibility of the state and municipality to provide medical charity for patients exceeding the number needed for teaching purposes in private and institutional free clinics. Benefactors therefore in their desire to have their benevolences serve, are actually making possible through these agencies the abuse of privilege by seekers after free medical services, and are encroaching on the state and municipal duties, an offense made more reprehensible since the state and munici-

pal institutions pay the physician and clinician serving the indigent and worthy. Under the present misguided plans of testatorship the benefactor deprives the clinician and physician to the indigent of a reasonable remuneration to which he is justly entitled. The major proposition in this suggestion to philanthropists is not so much the fact that corporate and theocratic hospitals and dispensaries are free, or that they so hold out and are known, as it is to direct attention to the fact that the thing they really offer free and altogether free is the medical service. It is the physician that is the free thing and through him it is made possible for the institution to set itself up as charitable. Such hospitals and institutions have not yet learned to take a loss gracefully in the name of charity; the loss must be righted and in righting it the public is called to the rescue. The community is notified and is expected to respond. This is fair since in a loss to a charitable order or institution the obligation is upon the community for indigent care is a state and a community duty. Since it is a state or municipal duty the clinician's cause attaches, but in the machinery of charitable momentum his cause appears lost. His time, efforts and service are taken as a matter of course,—a matter of honorary service. The physician is permitted to give and give freely his time, efforts and service. The loss to him is never considered by the institution or the benefactor. The amount of this loss to the physician has never been computed but whatever it is it represents the amount the community has saved.

Why is the physician expected to bear such a major portion of the community duty? The parade of testators and philanthropists goes by in strange unrecognition of him. He stands on a singularly unnoticed platform. His needs, deeds and rights to recognition are *ab initio* unconsidered in his relation as a major constituent to the brick, stone and mortar and are to date lost and utterly forgotten by philanthropists and the recipients of the philanthropies. The one thing that makes these institutions operable is the knowledge of how to treat the sick and afflicted in a scientific manner but no monetary recompense for this indispensable part of conducting medical charities is offered.

That the medical profession is exploited to make real and living the purpose of the grantor is beyond question of doubt. In allowing such exploitation the physician militates against his own personal needs, and these needs are something more concrete than a mere honorary service. However, in loyalty and humility the medical profession has answered the invitation of misguided philanthropy.

Since benefactors seem hopelessly devoid of prudence in ascertaining the limitation and needlessness of further expansion in free medical monuments, except for exclusive research and teaching purposes, it is of paramount importance that potential testators and grantors be informed and advised by the group whose birthright it is to say yes or no on the question of medical projects.

Medical service to the needs of the indigent in a community has always been freely, adequately and unstintingly given by physicians of the highest standing; and since it is the only ordained and empowered force which can make of the brick, mortar and stone, a living, actual and beneficent force, a positive fulfillment of the desires and wishes of the testator, why should not the body from which these blessings and possibilities flow be consulted concerning the need and propriety of a benefaction before such bequests come into being? Medicine is only exceeded in its compassion, service, charity and long-suffering by its traditional modesty which keeps the profession from seeking even rightful returns for its unmeasurable benevolences to both benefactor and recipient alike. What greater good could the potential benefactor bestow in the way of a living memorial, one flashing and bubbling with life and justice bearing fruitful returns in measure never dreamed of, than to bequeath to medical service an endowment for perpetuation and support of the clinician and physician in charity, for he is really the objective to consider and subsidize. Unless the monetary rights of the physician and clinician in charity are met, and until misguided philanthropy is led into the channel of this laudable objective, the monuments erected are to suffer inanition from the lack of the force underneath them.

The physician and clinician must be considered by philanthropy not only as to future contemplated free medical institutions but, more than that, as workmen who are worthy of their hire.

3109 South Grand Avenue.

OVALTINE

Ovaltine, a product known through extensive advertising, is sold with exaggerated claims. Although it claims to produce sleepiness if drunk before bedtime, warm milk will do just as well. Although the advertising states that it contains Vitamin D, there is no way for the public to know whether that vitamin content is preserved in the finished product, nor to be assured that the amount is sufficient to be of any service whatsoever. The composition of Ovaltine is kept a mystery, and even if it did contain what the manufacturer says it does, it could not do the things the manufacturer says it will, an editorial in *Hygeia* elucidates.

MINERAL OIL, ITS USE AND ABUSE AS A LAXATIVE

SAMUEL E. NEWMAN, M.D.

AND

G. E. GRUENFELD, M.D.

ST. LOUIS

Mineral oil, *paraffinum liquidum*, enjoys a position all its own among the laxatives. Its paramount and distinguishing feature is its pharmacologic neutrality as it is generally believed to lack any stimulating action on the secretory, nervous, muscular or circulatory apparatus of the intestines.

Its viscosity and the fact that it is non-absorbable have given occasion for the belief that it functions as a lubricant by furnishing a film for the intestinal mucosa, thus facilitating the movement of the contents of the bowel. This conception is easily disproved by occasional stool examinations after the administration of mineral oil. The absence of any coating of the scybala by the oil will be admitted in most cases in spite of the fact that the therapeutic effect has been satisfactory.

The following brief discussion will show that the occurrence of a layer or other massive accumulation of mineral oil is not only a sign of excessive dosage but may actually provoke disturbing symptoms. Mineral oil although resistant to the action of enzymes and other digestive secretions does not pass unchanged through the intestinal canal. It is subjected to emulsification as are the animal and vegetable fats of the food.

Emulsification is a complex physicochemical process that effects the even distribution of two immiscible liquids. Water and oil of any chemical constitution will remain separate—two phases—when brought in contact. Mechanical force like stirring or shaking will subdivide one phase, mostly the oil, in the other in form of droplets. Under ordinary circumstances this mixture is unstable. After a short time the droplets, moving according to their specific gravity, accumulate in a stratum and finally coalesce forming the original layer of oil.

A great number of substances belonging to a variety of chemical groups, such as soaps, bile salts, gelatine, dextrine and others and even solid particles of soot, have the peculiar effect of rendering the emulsions comparatively stable and permitting a finer subdivision and higher concentration of the droplets. It is not definitely known how these substances, the so-called emulsifying agents or emulsifiers, facilitate the process. The most advanced theories visualize the molecules of this third substance accumulated on the surfaces of the droplets and by this arrangement reduce the surface tension. The surface tension of a fluid is a force which is adverse to its being subdivided into another fluid and which maintains the tendency in the individual droplets to aggregate and coalesce into greater units. Besides reducing the surface tension, the molecules of the emulsifying agent impart to the individual

droplets an electrical charge which repels the droplets from one another. No matter what may be the final explanation of this enhancing mechanism brought about by the emulsifying substance, its important role in the biologic processes of fat catabolism and many technical procedures involving oils is firmly established. (Clayton,¹ Fischer²).

In the intestinal canal emulsification takes place preparative to the breaking up and absorption of the animal and vegetable fats of the food. Bile, soaps and probably numerous other colloidal substances act as emulsifiers. Mineral oil, a chemically inert oil, is certainly less readily emulsified than the fats of the food (lack of saponification). Nevertheless, examination of a stool specimen under the microscope discloses the fact that it has been subject to the same process. Especially after staining the smear with sudan one will readily discover the pinkish droplets of oil thoroughly mixed with the microscopic particles that constitute the feces.

Schlagintweit³ and Loewe⁴ have studied the emulsification of mineral oil in the intestinal canal of mice by direct inspection. Both authors proceeded by feeding the oil to animals through an esophageal tube and sectioning the intestines for microscopic studies. Schlagintweit found the oil invariably emulsified, while Loewe sometimes observed liquid as well as the emulsified oil. He noticed however that mineral oil found in the liquid phase in the small intestines and cecum often appeared to be entirely emulsified in the lower portions of the colon in the same animal.

The latter, casual observation of Loewe's deserves a comment. The question arises whether and how mineral oil can be emulsified in the large intestines and whether this occurs with regularity in the cecum and ascending colon. The answer to these questions is quite evident if we consider the transformation of the chyme after it enters the colon. The chyme discharged from the ileum is a liquid of 90 per cent water content. Roentgen ray examinations have demonstrated that the colon will readily be distended by the chyme up to the hepatic flexure or a little beyond where a "virtual sphincter" prevents the immediate overflow into the transverse colon. It is furthermore established that the transverse colon harbors a content which varies definitely in consistency from that of the cecum ascendens. It has been demonstrated by autopsy findings and observations on patients with colonic fistulas at different levels that the liquid chyme has been transformed into a mushy mass before entering the transverse colon.⁵ Thus the proximal portion of the large bowel is defined as a functional unit with the physiologic task of concentrating the chyme until it loses its liquid character.

Mineral oil, when present as a liquid accumulation in this part of the bowel, is by itself adverse to this process of concentration because it cannot be absorbed. As an emulsion, however, it can be so intimately mixed with the chyme that the physiologic consistency of the chyme will not be interfered with, and that finally no oil in liquid form will enter the colon. The emulsification of certain quantities of mineral oil in the cecum is facilitated by the circumstance that the oil is persistently mixed with the chyme, a medium containing numerous emulsifying substances. At the same time the chyme is concentrated toward a consistency that prevents the free floating of oil droplets. Thus, when the feces enter the transverse colon they consist of a semiliquid emulsion of oil in water in which are suspended minute and microscopical particles of food remnants, fibers, cells, bacteria, etc.

The importance of the oil in the further migration of the feces through the colon is well defined. While the water content is progressively reduced by absorption the nonabsorbable oil serves as a vehicle for the solid particles of the feces providing bulk and preventing the drying out of the scybala. Also, the presence of the oil evidently has some influence on the rate of absorption of the other liquid constituents. Reynell⁶ found the stools containing mineral oil extremely bulky, partially due to a higher water content.

Mineral oil has proved its therapeutic efficacy in practice. Quite a few cases of constipation get at least temporary relief by the daily administration of one half tablespoonful or more of the oil over a longer or shorter period. Our interest in the problem, however, was aroused when a number of patients under a mineral oil regime complained of abdominal discomfort, rumbling, cramps and the discharge of liquid oil simultaneously with stool or without stool. These symptoms at first seemed to contradict our conception that the oil has no stimulating or irritating effect in the sense of an ordinary cathartic. In search of an explanation for the occurrence of these symptoms we tried to analyze the circulation of the oil through the intestinal canal as outlined above. It is evident that fractions of the oil must sometimes remain unemulsified if its quantity is excessive or the chyme with which it is mixed lacks emulsifying efficacy. In this event larger or smaller quantities of the liquid oil may enter the distant parts of the colon in spite of the reflex mechanism that regulates the motor function of the intestine so as to prevent the entrance of liquid ingesta into the transverse colon.

A liquid content in the section of the colon

distal to the cecum ascendens must be considered as unphysiologic. The bowel responds to this stimulation with an increased motor action which in certain types of patients may become so strong as to produce sensations. Some fluoroscopic observations by Schwartz⁷ are of interest in illustrating this reaction of the large intestine. He studied the movement of a barium meal in the transverse colon after a plain water enema had been given to the patient. The injected fluid after entering the transverse colon liquefied the barium feces and provoked the contraction of the transverse colon so that the descending colon became filled with barium. If the patient could restrain his urge for defecation it could be observed that after a few seconds the barium slowly migrated back into the transverse colon. The movement was then reversed again and repeated itself several times within a short period of time until the patient yielded to the imperative call for defecation. A similar movement of the colon was observed by V. Bergman in acute diarrhea. It seems that this rocking movement (*Wiegebewegung*) does not occur under normal conditions but as a reaction to excessive stimulation; an excessively liquid character of the feces has to be considered as concurring with or responsible for such stimulation. We believe that larger amounts of liquid oil in the distal sections of the colon may thus produce excessive muscular reactions which in case of hyperactivity or hyperexcitability of the bowel may progress to spastic disorder.

In another respect we have learned to use discretion in the administration of mineral oil: Patients suffering from a painful anal lesion like fissure, abscess, etc., should have a soft stool in order to diminish the mechanical strain on the diseased tissues. Mineral oil frequently works satisfactorily because it does not produce excessive peristalsis nor does it increase the frequency beyond a normal regulation. This purpose, however, is defeated if the oil is given in such doses that it reaches the sigmoid and rectum unemulsified as a liquid accumulation.

Newman⁸ has demonstrated that a liquid in the rectum stimulates contractions in this organ and leads to the frequent passage of small amounts of the oil (leakage) or numerous small defecations, thus increasing the mechanical strain on the diseased tissues which proper therapeutic management tries to avoid.

CONCLUSIONS

Mineral oil is emulsified in the intestinal canal and thoroughly mixed with the chyme. It constitutes a vehicle for the formed elements of the feces that cannot be absorbed.

The therapeutic effect in constipation is brought about by the increase and maintenance of the volume of feces and possibly by a stimulation of the intestinal musculature during the emulsification and mixing of the oil with the chyme, especially in the cecum and ascending colon.

Excessive quantities of the oil that cannot be emulsified and incorporated into the chyme are eventually transported into the distal portion of the colon as a liquid accumulation and may provoke peristaltic reactions which upset any therapeutic benefit.

6450 Cecil Place.
603 Metropolitan Building.

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AN ARGUMENT FOR BETTER
PRENATAL CARE*

WINTON STACY, M.D.

ST. JOSEPH, MO.

I will divide this subject into four main parts as follows:

- 1. A short description of adequate prenatal care.
- 2. The responsibility for adequate prenatal care rests upon the medical profession.
- 3. The urgent need of prenatal care for the gravid women of St. Joseph, Mo.
- 4. The results obtained in a group of women in St. Joseph who had adequate prenatal care. The figures in the tables presented are taken

The nine months that a woman is carrying her baby is the most neglected period of that baby's whole existence. It is during the prenatal period that the physician can do much to insure a healthy baby and lessen the risk of childbirth. The patient must cooperate and follow instructions and her husband must look upon childbirth as being something different from a ten days' vacation from household duties for his wife. Childbirth is a normal function in the same sense that death is a normal process. The medical profession must learn to look upon pregnancy as "a disease of nine months' duration."

Prenatal care includes a great deal more than a urine examination every three weeks. Adequate prenatal care includes a complete physical examination, pelvic measurements, Wassermann test, blood pressure readings, record of weight, and urine examination at the first visit of the patient to the physician's office. A complete history is also taken. The weight of the patient, urine examinations and blood pressure readings are taken every four weeks during the first six months of pregnancy and every three weeks during the last trimester of pregnancy; and if other than normal conditions exist they should be taken every week. She is referred to her dentist for a dental examination and corrections. She is instructed as to the proper dress and amount of exercise. Her diet is supervised throughout pregnancy. An excessive gain in weight is to be avoided. The proper guidance in mental hygiene is important.

The responsibility of prenatal care rests upon the medical profession. This group originated at about 90 per cent of all births, deaths, stillbirths, infant deaths and maternal deaths occurring in Missouri in 1930, as shown by table 1.

Table 1. Showing Per Cent Attended By M.D.

	Total Number	Rate Per 1000 Population	Per Cent		Per Cent Attended By				
			In Hospital	Not Stated	M.D.	Midwife	Others	D.O.	D.C.
Births	62,011	17.08	26.11	73.88	92.04	4.92	1.52	1.5	.001
Deaths	42,924	11.82	25.77	not given	87.33	not given		1.22	.12
* Stillbirths	2,701	43.55	30.00	70.00	94.11	2.85	1.77	1.25	not given
* Maternal deaths	358	5.77	49.72	50.27	89.1	not given	9.77	1.11	not given
* Infant deaths	3,617	58.32	27.42	72.57	92.09	none	6.24	1.6	.05

* Rates per 1000 live births.

either directly from the annual report on vital statistics in Missouri for 1930, or they are calculated from figures and percentages given in the statistical report. Exceptions will be mentioned.

*Read before the Buchanan County Medical Society, St. Joseph, November 18, 1931.

Deaths in the puerperal state were fourth highest of all causes of death in the female in the child-bearing age in Missouri in 1930, being exceeded by pulmonary tuberculosis, circulatory disease (except acute endocarditis and myocarditis) and cancer. More women in St. Joseph between the ages of 10 and 50 years

died of causes associated with childbirth than from any other cause of death.

The urgent need for prenatal care or some equally efficient means of reducing the maternal mortality rate is demonstrated in table 2.

The value of prenatal care has been amply demonstrated by various clinics in this country. There has been a great reduction in maternal mortality, stillbirths and premature births wherever organized effort has been made to

Table 2. Important Causes of Death in Missouri, 1930

Important Causes of Death	MISSOURI			ST. JOSEPH		
	Female All Ages	Both Sexes 10-50 yrs.	Female 10-50 yrs.	Total No. Both Sexes	Female All Ages	Female 10-50 yrs.
Total.....	19,043	10,579	4,686	1,332	590	145
Pulmonary tuberculosis.....	1,038	1,509	689	40	18	12
* Circulatory disease.....	3,667	1,138	484		not given	
Cancer.....	2,137	735	400	125	67	12
Puerperal state.....	358		358	22		22
Broncho and lobar pneumonia.....	1,479	767	333	111	48	12
Nephritis.....	1,921	605	271	104	46	6
Appendicitis.....	247	398	164		not given	
Auto accident.....	208	414	108	31	8	4
Typhoid fever.....	116	193	85	2	1	
Influenza.....	385	157	75	14	6	1

* Except acute endocarditis and myocarditis.

The majority of the gravid women of St. Joseph, are not getting adequate prenatal care. This city has the sixth highest stillbirth rate and the fifth highest infant mortality rate of sixteen leading cities in Missouri. It has the highest maternal mortality rate. The maternal mortality rate of St. Joseph is compared with that of other cities in Missouri in the following chart:

City	Rate Per 1000 Live Births
St. Joseph	18.81
Jefferson City	17.61
Sedalia	16.71
Hannibal	14.98
Cape Girardeau	12.12
Springfield	12.05
Independence	10.00
Joplin	9.46
Kansas City	8.89
St. Louis	5.38
Moberly	4.90
St. Charles	3.92
Columbia	3.78

Over one half of the maternal deaths are preventable. In the United States, during or immediately after childbirth one mother dies every half hour and one baby dies every three and one half minutes. The women who die of causes associated with childbirth are not the very young or the very old. Ninety per cent are married women, frequently mothers of other children.

Table 3. Maternal Deaths by Causes

Cause	Total Number	Per Cent
Puerperal septicemia	157	43.85
Puerperal albuminuria and convulsions	79	22.06
Puerperal hemorrhage	30	8.37
Other accidents of labor.....	29	8.10
Ectopic gestation	19	5.30
Abortion	16	4.47
Puerperal phlegmasia alba dolens....	15	4.19
Other accidents of pregnancy.....	6	1.70
Cesarean section	5	1.39
Not defined	2	0.53

provide prenatal care. Adequate prenatal care has been given to a group of women in St. Joseph by the Welfare Board Prenatal Clinic. This clinic is under the auspices of the Welfare Board. The nursing service is furnished by the Visiting Nurses Association. The data given below are taken from the records of 155 consecutive deliveries.

Among the 155 deliveries there were two

sets of twins, making a total of 157 babies. These were delivered by seventeen different physicians. About 40 per cent were delivered in the hospital and 60 per cent in the homes. The results may be tabulated as follows:

Stillbirths —4, or a rate of 26.42 per 1000 live births.

Infant deaths —3, or a rate of 19.81 per 1000 live births (dying in 10 days)

Maternal death —1, or a rate of 6.6 per 1000 live births.

There were only two premature deliveries in this group and two miscarriages out of 157 cases.

One mother died from pneumonia three weeks postpartum. This was classified as a maternal death.

These results were obtained in a group of women who gave 8.41 per cent positive Wassermann reactions.

	Rate Per 1000 Live Births	Maternal Mortality
St. Joseph	18.81	
Welfare Clinic	6.6	
		Stillbirths
St. Joseph	57.31	
Welfare Clinic	26.42	

The above chart gives the comparative rates of the maternal mortality and stillbirths of St. Joseph to those of the Welfare Board Prenatal Clinic.

CONCLUSIONS

In conclusion, I wish to emphasize that a woman under the care of the Welfare Board Prenatal Clinic stands a better chance of going through pregnancy and giving birth to a normal, healthy, living child, than the average woman in St. Joseph under the care of a private physician who does not give her adequate prenatal care.

Since prenatal care is a panacea for our obstetrical ills, the physicians of St. Joseph and of the State of Missouri should pay more attention to this division of obstetrics.

Note:—An explanation of how the number of deaths in the female between the ages of 10 and 50 was obtained. Take pulmonary tuberculosis as an example: The total number of deaths, both sexes, all ages, from this cause was 2270. The number of females was 1038, or 45.7 per cent of the total. The total number, both sexes from 10 to 50 years, was 1509; 45.7 per cent of 1509 gives 689 plus, the total number of deaths from this cause in the female between the ages of 10 and 50 years; 689 is 66.4 per cent of 1038, the total number of deaths in the female. Then it is fair to assume that 66.4 per cent of the total number of deaths in the female from pulmonary tuberculosis occurred between the ages of 10 and 50 years. In St. Joseph the total number, both sexes, who died from pulmonary tuberculosis was 40; 45.7 per cent of 40 gives 18 deaths at all ages in the female; 66.4 per cent of 18 gives 12 deaths in the female between the ages of 10 and 50 years.

Columns 3, 5 and 6 in table 2 were calculated as above described.

206 Kirkpatrick Building.

PHYLOGENY OF MENSTRUATION

CARL G. HARTMAN, Baltimore (Journal A. M. A.), emphasizes the fact that although the general biologist may concede that in its spectacular manifestations menstruation is a "primate character," if one searches for fundamental or even for the more superficial physiologic causes, and if one investigates other mammals and even the lower vertebrates and attempts to discover what they have in common with man, anthropocentric ideas receive jolt after jolt. He shows the universality of uterine bleeding in the vertebrate series and offers this generalization as another example of the kinship of man with the whole of creation. Sufficient is said to introduce those who have not thought of the matter to the widespread occurrence of bleeding into the müllerian derivatives. The study of the control of the bleeding has not yet begun, so far as the lower vertebrates are concerned. The suggestion of Hartman, Firor and Geiling that a hypophyseal factor may be generally involved seems to be worth following up. The common denominator in the physiologic control of the various types of bleeding is likely to be the fundamental principle involved. Menstruation according to this view begins with the Salachian fishes.

LEPROSY IN HAWAII*

GEO. B. TUTTLE, M.D.

KALAUPAPA, T. H.

Leprosy was not recognized in 1820 by the missionaries in Hawaii but in 1823 the Reverend Stewart, a physician-missionary stationed in Hawaii, stated that "cases of ophthalmic scrofula and elephantiasis" were very common. It is quite certain that the elephantiasis was true leprosy. Later, in the thirties, leprosy was being noted and diagnosed as such, but it was not until in the fifties or sixties that there was an unusual number of cases of the disease and Dr. Hillebrand recommended that the legislature pass some efficient and humane measure for the isolation and care of those afflicted. In 1865 the King approved an act to prevent the spread of leprosy in the kingdom. The board of health decided on Kalaupapa, Molokai, as a suitable place and the first patients were sent there in 1866.

Kalaupapa is situated on the north side of the island, at the foot of a range of cliffs some 2500 feet high. These cliffs extend along the coast for a distance of several miles. Kalaupapa is a tongue of land at the foot of these cliffs and has an area of approximately 10 square miles. The Kalihi receiving station on the island of Oahu was opened in 1879 for the purpose of holding new-found patients until a sufficient number were collected to send to Kalaupapa. They were also treated at the station. It is now used for the segregation of early cases for treatment and as an experimental station by the United States Public Health Service.

As the Hawaiians had no name for leprosy it is possible there were no cases in Hawaii before the Chinese came. They believe it was due to the Chinese and called it "Mai Pake." Mai is the Hawaiian word for disease or sickness and Pake means Chinese. Whether the Chinese brought it to Hawaii or whether the Hawaiian sailors visiting China brought it back is of course unknown; but almost invariably wherever Chinese migrate they carry leprosy with them.

The age of infection is unknown but cases have been diagnosed as early as three years and as late as sixty-five. The largest number of cases are discovered between the ages of eight

*Read before the St. Louis Medical Society, November 10, 1931.

and sixteen. The racial groups in Hawaii are affected in about the following order: Hawaiians, Chinese, Portuguese, Japanese and Filipinos. The Philippines are the latest source of laborers and cases have been coming in increasing numbers for about twelve or fourteen years and about one hundred lepers have been apprehended from among these. Leprosy affects men more than women. Why, no one knows. The infection seems to be a home or domestic infection in probably 98 per cent, and communal infection in 2 per cent.

In 1888 a home for girls of leprosy parents was established and there have been less than ten cases of leprosy in these children; and since the home for boys was established in 1908 this number has been reduced to six or eight. The children are taken from the parents at birth. Heredity apparently plays an exceedingly small part in the transmission of leprosy. Chaulmoogra, records show, was used in the treatment of leprosy in China as early as 1540 and was first used in Hawaii in 1880. In an improved form, antileprol, the original preparation of ethyl esters, was patented in Germany in 1909 and in the United States in 1910 and was first used in Hawaii by Dr. J. T. Wayson in that year. It can be administered by mouth or by injection but it seems to have little or no influence upon the disease. At present, the snow pencil is finding favor in Europe but this was introduced in the treatment of leprosy by Dr. Wayson as early as 1910.

The Leonard Wood Memorial Conference on Leprosy, held in Manila, January 9 to 23, 1931, proposed a classification of leprosy into two main types, neural and cutaneous, and these were subdivided into three subtypes, slight neural, moderately advanced neural, advanced neural, slight cutaneous, moderately advanced cutaneous, advanced cutaneous. Cases in which both types are present, and this is true in a large majority, are called neuro-cutaneous or cutaneous neural according to which type is most pronounced.

The Conference also recommended that the microorganism be referred to as "*Microbacterium leprae*" and not as "*Bacillus leprae*," the term formerly used.

Secondary neural cases are those that were formerly cutaneous but from which the active leprotic lesions have disappeared. In neural leprosy the ulnar, median and peroneal nerves are the ones most frequently involved, becoming enlarged and tender, particularly the ulnar. The enlargement can also be found in the great auricular, supra-orbital, superficial branch of the radial and peroneal nerves. This thickening is about equally frequent on one side only or on both sides. The type may be nodose, sym-

metrical and cylindrical, or spindle form. Many of the skin lesions are apparently responses to disturbances in the sympathetic nervous system, in the roots, or the more peripheral portions of the spinal nerves.

Other evidences of peripheral neuritis occur with a constancy which suggests that they are an essential part of the clinical syndrome. The attacks of painful neuritis constitute the one very painful feature in the entire symptomatology. The frequency and prominence of sensory changes is another characteristic of this neuritis. Tactile, thermal, or pain sensation may be altered but pressure and deep sensation are retained. Areas of hypesthesia, anesthesia or hyperesthesia are seen and correspond to segments innervated by the distal branches of individual nerve trunks. The commoner sites of these disturbances are the ulnar borders of the hand and forearm, the olecranon processes, the external malleoli and the lateral border of the dorsum of the foot.

Paresis and paralysis are frequent. Paresis is noted in the twitchings and tremors in individual muscles or groups of muscles, such as the interossei, lumbricales, abductors, small flexors and opponens of the first and fifth digits of the hand, orbicularis palpebrarum (lower lid and lower facial), elevators of the angle of the mouth, dorsal flexors of the foot (peroneal and anterior tibial). This paralysis of an affected part is occasionally preceded by becoming reddened and greatly swollen; in a few days there is subsidence of the swelling, evidence of atrophy, with paresis or paralysis present. The development of this condition is not always acute but may be gradual and may or may not be accompanied with swelling but is always attended with atrophy. In the eyelids there may be premonitory tremors. The lower branches of the facial are more often attacked than the upper branches but bilateral facial palsies are infrequent. The deep reflexes are usually normal though cases of increased, decreased and even absence of these reflexes are seen.

Trophic changes in the skin and subcutaneous tissues with callous formation and painless ulcerations are prone to occur in cases of moderate clinical severity as well as in those of a later or more advanced degree. Many of the trophic ulcers are superficial to joints and bones which have undergone some degree of dissolution. Regeneration of nerves which appear from clinical findings to have been extensively degenerated may take place, followed by restoration of function in parts innervated and areas of considerable sensory disturbance; paralyzed muscles may return to relative normality and even the destruction and absorp-

tion of bone may come to an apparently complete arrest with varying degrees of deformity remaining.

The cutaneous lesions are subjective and objective: the subjective symptoms consist of itching, burning, smarting, pricking, hyperesthesia and hypesthesia (these two coming under the head of neural symptoms), and areas of anhidrosis and hyperhidrosis. The objective symptoms are manifested by macules, papules, wheals, nodules, vesicles, pustules, blebs, crusts, ulcers, pigmentations and depigmentations. Recent or newly formed lesions are characterized by erythema, sometimes accompanied by edema. Older lesions may be erythematous, pigmented or depigmented and may present evidence of infiltration, fibrosis, atrophy or degeneration with ulceration. Lesions old or new tend to be annular, circinate, gyrate, or serpiginous in outline. The macular type is evidenced by cyanosis of the palms of the hands and soles of the feet in pigmented and depigmented areas and the erythemas. The erythematous lesions are light or dark red in color in the dark races and in Caucasians a fawn or coppery tint. There is also the erythema multiforme of the circinate, iris, bulbosum and nodosum type.

Some lesions resemble ichthyosis, lupus, pityriasis, psoriasis, trichophytosis and granuloma annulare. Lesions resembling psoriasis differ from the true annulare in that they are not covered with the silvery imbricated scales. Alopecia is very rare and it is doubtful if the scalp is ever affected unless there are complications, but one of the common symptoms of the neural and mixed type is loss of the eyebrows and eyelashes and in many cases these areas may be bare, as are occasionally areas on the thighs and legs, but the axilla and pubes are as a rule not affected. Out of some four or five hundred males examined I have only seen two or three in whom the genitalia have shown any lesions of leprosy.

Dermatitis exfoliativa occurs and the whole body is affected, even the scalp in one case. Eczema-like lesions are rare, especially of the oozing type. Infiltrated areas of the forehead and malar eminences in many instances develop into nodules and form the typical leonine facies of leprosy. These infiltrated areas and nodules are found on other parts of the body as well as the face. Sometimes the nodules break down and form ulcers of an oval or circular shape, with well defined edges and the floor a dirty reddish color, indolent and sometimes pustular. These vary in size from one-half to two inches; some heal quickly under treatment while others are very resistant, becoming gangrenous and destroying much tissue; others undergo a resorption and leave very disfiguring scar tissue.

Infiltrations, nodules and ulcers are found on the mucous membrane of the nose, mouth and larynx, apparently at times extending well into the trachea. The mucous membrane of the nose becomes swollen and infiltrated to such an extent as to occlude the nares. This, when accompanied by infiltration of the larynx or upper trachea, often necessitates the insertion of a tracheotomy tube. The mucous membrane is considered by most leprologists as one of the portals of entry of the *Mycobacterium leprae*. In a large percentage of cases the bacterium is found in the lesions of the nose and in many cases scrapings from the nose where there are no apparent lesions will show the organisms. The development of nodules and ulcerations of the septum often lead to perforation of the cartilaginous partition with eventual total destruction of the triangular cartilage and occasionally of the vertical plate of the ethmoid with complete collapse of the nose, such as is so commonly seen in neglected cases.

The leprosy lesions of the eye are manifold. Some of the commonest and most troublesome are, (1) invasion of the various coats of the eye by lepromatous nodules; (2) low-grade iritis without nodules; (3) exposure keratitis; (4) severe conjunctivitis.

The nodules mentioned in (1) cause rapid destruction of the globe and loss of sight. The usual location of these nodules is at the corneoscleral junction. It is a most interesting type of nodular invasion and we in Hawaii have dubbed it the "Ring nodule." It starts at or near the limbus and produces a gradual weakening of the coats of the eye with ectasia of the sclera, staphylomatous protrusion of the whole cornea and gradual annealing of all the structures of the anterior part of the eye with total loss of vision. We have used the actual cautery in removing these lepromatous nodules from the globe and have been able to conserve the remaining vision for several years in a number of cases. I have been unable to find this condition described in the literature of leprosy.

The attacks of iritis (2) without nodules are frequent and of a low grade.

Exposure keratitis (3) is a result of paralysis of the lower eyelids and causes blindness unless the cornea is protected early in the attack by plastic operation. The type of treatment we use at Kalihi and Kalaupapa for this condition is a modification of Fuch's tarsorrhaphy developed by the consulting eye specialists of the Board of Leper Hospitals and Settlement at Honolulu.

We find these conditions so frequently at Kalaupapa that we have been led to regard

blindness as the ultimate result of leprosy in a large number of cases.

Leprous reaction is one of the most interesting and important phases of the disease. It occurs frequently and may vary from a painful neuritis or reddening of an isolated skin lesion to a general exanthematous eruption or a sudden marked increase in the severity of existing lesions with ulceration and toxic manifestations and if protracted may lead to death. Such reactions are frequently referred to as acute exacerbations which according to the Leonard Wood Conference is a term that may be misleading. At times, leprous reaction may initiate an actual advancement of the disease and on subsidence of the reaction the original lesions may be larger or more numerous than before. On the other hand, it may prove beneficial, for after this subsidence the lesions may improve. The cause of this reaction is unknown. It is characterized by a rather sudden onset and systemic disturbances, including fever. During a few days previous to these attacks there may be premonitory signs or as stated it may develop suddenly. It often appears during or following an acute illness, the menstrual period, pregnancy and parturition.

I desire to express my thanks to Dr. R. H. Hagood, F. J. Pinkerton, N. E. Wayson, Surgeon, United States Public Health Service, and J. T. Wayson, of Honolulu, for their valuable assistance in the preparation of this paper.

EFFECT OF HYPOPHYSECTOMY ON OVULATION AND CORPUS LUTEUM FORMATION IN RABBIT

PHILIP E. SMITH and W. E. WHITE, New York (Journal A. M. A.), hypophysectomized rabbits by a procedure that permits prolonged survival. They noted that ovulation will take place although the pituitary is removed after a postmating period but slightly over an hour in length, thus confirming the report of Fee and Parkes. In such animals the corpora lutea develop normally for approximately a two day period. Further changes are atypical. The development of the corpora in the absence of any postovulatory pituitary secretion is discussed in regard to its bearing on the question of the unity or the duality of the pituitary sex hormones.

HYPOPHYSEAL-OVARIAN RELATIONSHIP

Experiments described by JOHN C. BURCH, W. L. WILLIAMS, J. M. WOLFE and R. S. CUNNINGHAM, Nashville, Tenn. (Journal A. M. A.), tend to show that endometrial hyperplasia is due to a relative excess of estrin. This of course can result from either an actual excess or a relative excess. The latter seems more probable. The ovary and the hypophysis are closely associated and each affects the other. There is a definite cyclic variation in the capacity of the anterior hypophysis to produce ovulation. Variations and deficiencies in the ovulation cycle might easily cause alterations in the menstrual cycle with idiopathic bleeding as a symptom.

SLIPPING OF UPPER FEMORAL EPIPHYSIS: STUDY OF SEVENTY CASES

ALBERT B. FERGUSON and M. BECKETT HOWORTH, New York (Journal A. M. A.), review seventy cases of slipping of the upper femoral epiphysis. They believe that bilateral occurrence is not infrequent and should always be looked for. Overweight children, whether tall or fat, are more susceptible to the condition. This appears to be due to the greater stress on the hip rather than to any physiologic factor such as endocrine imbalance. Trauma appears to be of importance merely in hastening the onset of symptoms or displacement in a hip which is already diseased. Seasonal variations in onset are accounted for by the seasonal activity of children. The onset of symptoms and of displacement occurs usually during the rapid growth period of adolescence. Exceptions are explained by the factors of weight and trauma. The pathologic features are sclerosis, thickening and avascularity of the soft tissues about the neck, with absence of any primary disease of the bone or cartilage. Sclerotic changes about the neck are followed by a vascular disturbance, resulting in weakening at the epiphyseal disk, which frequently eventuates in slipping. Four stages are described: preslipping, slipping, quiescent and residual. Definite symptoms, physical signs and roentgenographic evidence of the disease are always present in the preslipping stage, and early diagnosis is essential for the best results. After slipping there may be complete incapacitation of the hip or only slight disability, but definite evidence of the condition is always present. Final function is not proportional to deformity. Adequate rest for the hip is the most important factor in obtaining a good result. In hips that have slipped less than three-eighths inch, and in the preslipping cases, rest alone is sufficient treatment. If the period before expected epiphyseal union is longer than six months, drilling across the epiphyseal line will hasten union. In hips that have slipped more than three-eighths inch early in the disease and recently, reduction is recommended. In later cases with as much displacement, open reduction or subtrochanteric osteotomy after quiescence is advised. In all cases, weight reduction and eradication of foci are indicated. The well developed callus and early union occurring in this condition should be mentioned because of the frequently accepted view that joint fluid interferes with the healing of bone. Arthritis is the usual sequel in adults.

GRIPPAL INFECTIONS: POSTFEBRILE CARDIOVASCULAR DISTURBANCES, USUALLY UNRECOGNIZED

In the opinion of CLARENCE L. ANDREWS, Atlantic City, N. J. (Journal A. M. A.), a grip is regarded by many physicians as a systemic cold, and patients are allowed to get up much too soon. Unless outspoken murmurs are present, heart enlargement is demonstrable, edema persists, or changes in the electrocardiogram are found, the heart is pronounced normal. Myocardial weakness is the most common of heart defects and organic leaks of the valves are the most rare. Even the mild forms of grip offer potential possibilities of myocardial disease and show evidences of lingering infection in the body tissues. The most effective treatment that the author has found consists of rest and tonic doses of digitalis and nux vomica (not with the idea of digitalization) to tone up the heart muscle and vasomotor system.

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APRIL, 1932

EDITORIALS

MISGUIDED PHILANTHROPY

All scientific discoveries and all medical progress have been the results of keen intellectual endeavor and often of heroic martyrdom. Back of many of these advancements and making them possible have been governmental, institutional or individual bequests. Without such bequests the progress of medical science would have been greatly retarded.

With human welfare so dependent upon medical advancement and therefore indirectly dependent upon philanthropic donations, the question as to whether such bequests have been made and are being made to the best advantage has long been pertinent. Study of a few bequests would seem to prove that human welfare has not been so advantaged. But this same study shows that many of those who made the bequests must have been very certain in their own minds that the bequests were well placed to fulfill the philanthropic purposes of the donor.

An instance of well-guided philanthropy is that of Julius Rosenwald who provided that the immense wealth of the Rosenwald Philanthropic Foundation be expended, principal and interest, within twenty-five years from the date of his death. It was Mr. Rosenwald's opinion that men in one generation could not foresee and plan for the needs of a succeeding generation. He advocated such bequests during his lifetime and followed out his theories in practice. We do not agree with this view of how best to promote human welfare, although the provision to expend the entire sum within a specified period of time has the advantage of preventing the money from becoming a glaring instance of frozen assets. Such well thought out bequests have been numerous. The amount of money so donated runs almost parallel to the extent of progress made in that field of medical science devoted solely to research work.

A study of the majority of bequests, however, gives two conclusions: (1) the beneficiaries are not well chosen, and (2) the benefactors are not well informed or, if donating without advisers, they are not well versed in the future needs of the beneficiary. Could a person having been informed by a competent adviser upon the increasing yearly toll of cancer and the great benefaction to the human race which its cure, the ultimate outcome of research, will bring, donate to a beneficiary of relative humanitarian unimportance?

In former years when medical education was not thorough nor the material adequate for teaching purposes, the young physician needed such opportunities as charitable institutions afforded for internship to give him the necessary clinical experience. In those days he was willing to serve and did serve as an intern without remuneration. There was little demand for a thorough preliminary education. The course was short, the expense low. Now, the student enters upon his medical studies only after having acquired a very thorough preliminary education, and some medical schools demand that he possess an A.B. degree, before he matriculates; in addition, he must compete with other applicants who are also highly educated. After earning his medical degree he must compete for internship in approved hospitals where he receives further clinical instruction and practice. He usually goes to the clinics in Europe for another one or two years of study and after nine or ten years of preparation he emerges with an armamentarium adequately prepared to treat any of the ordinary conditions that confront him. Today, hospitals pay their interns a salary, but the hospital selects them with extreme discrimination. The hospitals furthermore select their staffs with equal if not more searching discrimination so that their patients shall receive the attention of physicians who are highly skilled and who will reflect credit upon the institution.

Philanthropists who desire to build and endow hospitals have thus far limited their bequests to the brick, mortar and stone for the construction of the hospital and sometimes for its maintenance. To our knowledge there is not a known instance of a philanthropist endowing the physicians on the staff of charity hospitals, without whom the institution would be nothing but a pile of brick, mortar and stone. Physicians are generous of their time and even their money to serve the poor and doubtless will continue to give this service free to the deserving needy. It is, however, becoming a question of considerable discussion as to whether the state or the municipality has

the right to expect the service of physicians in caring for the sick wards of the community without some remuneration. It is here that well-guided philanthropy could serve the real welfare of the community by providing money to pay the physicians on the staffs of state, municipal and county hospitals.

On another page* in this issue will be found a thoughtful study of this question by Dr. George H. Mathae, of St. Louis. Dr. Mathae also contends that philanthropists should ask advice from competent bodies to guide them in the disposition of their charities.

That this point is being discussed in groups other than the medical profession is shown by an editorial in the St. Louis *Post-Dispatch* of March 7 which we quote:

With due credit to the generous motives of American philanthropists, there is no question that many of them need to be taught how to give wisely. The status of infantile paralysis research at Washington University Medical School shows the need for bringing home the relative importance of various humanitarian causes to those in position to endow them. This disease is one of the most urgent problems now confronting medical science, a scourge that strikes without warning, bringing death and disability with it. Washington University, with several other institutions, for some time has received \$10,000 a year from the Milbank Fund for inquiry in this field. But now the fund of \$275,000 is exhausted, and the work must be discontinued unless further money comes from some as yet unknown source.

The dilemma that confronts a Western community shows the reverse side of charity's shield. A wealthy woman who died recently in New York left \$50,000 for the relief of suffering and distressed animals in Boulder County, Colo., and that county is at a loss what to do with so much money. A similar embarrassment of riches faces a theological seminary with 40 students at Nanking, China. This school is to receive something in excess of \$12,500,000 from the Wendel estate in New York. Another instance of short-sightedness was the \$40,000,000 left a few years ago by a Pennsylvania man for establishing orphan asylums, just when social science is seeking to abolish such institutions and to provide real homes for parentless children.

While infantile paralysis research seems fated to cease in St. Louis, there is the Mullanphy Fund, now upwards of \$1,000,000, which, by court decree, must continue to be used for the relief of needy travelers. Its founder's purpose as expressed in 1849, to aid emigrants on their way to settle in the West, has long been obsolete. In England, the Charity Commissioners have power to examine public bequests and, if they so recommend, Parliament may divert the funds to other uses. Were there such a law in this country, the Mullanphy Fund might go down in history as the sponsor of a great medical discovery, instead of as the classical instance of misguided giving, which it is today. Without such a law, the country's urgent causes must depend upon the acquisition of intelligence and foresight by wealthy givers.

HOTELS AND RATES AT JEFFERSON CITY

Reservations for hotel accommodations at Jefferson City should be made in advance of the meeting. Members are urged to communicate with the hotels direct and mention what accommodations they would like to have reserved for them. It is important to mention the price of room desired and to state the probable date of arrival. Should it happen that the hotel is unable to make the reservation desired, members should then write to the chairman of the Committee on Hotels, Dr. J. G. Bruce, Central Trust Building, Jefferson City. The Chamber of Commerce has assured the Committee that because of the legislature and numerous conventions in Jefferson City they are prepared to furnish adequate rooms if the hotels cannot accommodate all those who attend the session. The price of these rooms will be \$1.00 per day. The names of the hotels and rates follow:

MISSOURI HOTEL (150 ROOMS)		
	Each Person	Additional Person
Room with shower, one double bed..	\$2.50	\$1.50
Corner room with shower, one double bed	3.00	1.50
Room with combination tub and shower, one double bed.....	3.00	1.50
Room with combination tub and shower, twin beds.....	4.00	2.00
Room with combination tub and shower, three single beds.....	4.00	2.00
Room with combination tub and shower, two double beds.....	4.00	2.00
Room with combination tub and shower, twin beds	3.50	1.50
Two-room suite (parlor and bedroom)	8.00	2.00

CENTRAL HOTEL (85 ROOMS)		
Room without bath, one double bed	1.50 up	1.00 up
Room with shower, one double bed	2.00	1.00
Room with tub bath, one double bed	2.50 up	1.00
Room with twin beds.....	4.00	
Room with connecting bath, one double bed	2.50	1.00

NEW MADISON HOTEL (90 ROOMS)		
Room without bath	1.50	1.00
Room with bath	2.50	2.00

EUROPEAN TOURS

Three clinical tours are being offered members of the medical profession this summer by the Amerop Travel Service, under the auspices of the state medical journals. The tours are extremely reasonably priced ranging from \$365 for a three-week tour to \$894 for an eight-week tour. All include attendance at the centennial anniversary meeting of the British Medical Association in London, July 25. Each tour will be conducted by an eminent American physician and distinguished European

* Page 160.

clinicians will supervise the attendance at clinics in every important city visited.

Individual clinic arrangement will be carried out in most cases. Each physician who registers for the tour will choose specific assignments along the line of his special interest in each clinic city. A full sight-seeing program has been arranged for every city as far as possible not to conflict with clinic assignments.

The tours are scheduled to leave New York on June 7 for the eight-week tour; July 19 for a seven-week tour, and July 19 for a three-week tour. Full information on any phase of these tours may be obtained by addressing THE JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION.

THE PLANE VS. THE BULLET, A FURTHER STUDY IN RELATIVE SPEEDS

The Literary Digest, of June 9, 1928, also of July 21, 1928, reviewed the original study by Lieut. Col. Norvelle Wallace Sharpe, St. Louis, that appeared in *The Infantry Journal* of May, 1928. In the former issue, Levering contributed a characteristically mirthful cartoon that did much to lighten an otherwise somewhat technical presentation. If the subsequent widespread repercussion through the mails be held a fair criterion, it may be assumed that at that time the relation of the velocities of the then fastest racing planes and the then best service ammunition, as fired from the Springfield rifle, was not generally recognized. The practicability of the then current plans for training ground troops for firing the service rifle against attacking planes, as discussed by Colonel Sharpe, was generally overlooked in the animated discussion of the more dramatic theme of relative velocities.

In *The Infantry Journal*, Nov.-Dec., 1931, also of Jan.-Feb., 1932, Colonel Sharpe brings this study of relative velocities up to include the maximum racing speed of Flight Lieut. G. H. Stainforth, winner of the 1931 Schneider Trophy race. Interesting it is to note as therein shown by him that the average velocity of M1 ammunition, as fired in the Springfield rifle, 486.25 feet per second, is now exceeded by Stainforth's top racing speed average (608.96 feet per second) by 122.71 feet per second.

In this last study, Colonel Sharpe also discusses the most recent notations of Gerlich, of Kiel, upon the Halger-Ultra rifle and the Halger-Ultra ammunition. The phenomenal advances therein recorded in velocity, bullet energy, penetration, and smashing power, Gerlich states, have been officially confirmed by experts on the German Testing Station for Small Arms, Berlin-Wannsee.

It is known that the War Department has been making extended and intensive study of various semi-automatic rifles (notably the Pederson .276, the Garand .276, the Garand .30) with the thought of supplanting the present Springfield rifle with a semi-automatic of smaller calibre.

If the notations of Gerlich are essentially correct, the Halger-Ultra rifle and ammunition so far surpass each of the foregoing rifles under consideration, that they will be automatically outclassed if and when issued. It may be fairly assumed that the United States wishes its armed forces equipped with the best and most dependable rifle available.

The War Department, in putting into concrete form the provisions of The National Defense Policy, plans for a national emergency of maximum import, the mobilization and equipping of six Field Armies, approximately 4,000,000 men. The Springfield rifle as issued currently costs \$32.75. If it be assumed that any one of the three rifles now under consideration and test will cost at least this sum, the cost of complete substitution will be seen to be \$131,000,000. Nor would this sum include the cost of scrapping the present equipment for manufacturing the Springfield, nor the cost of replacement by equally complete equipment for the manufacture of the proposed substitute rifle. If, however, this or probably a larger sum be invested in a substitute service rifle that at time of issue will be automatically outclassed in effectiveness by the Halger-Ultra rifle and ammunition (or indeed any other rifle and ammunition) such an investment must then fairly be classified as catastrophic.

The consideration of those interested in these matters is invited to the basic studies by Colonel Sharpe, in *The Infantry Journal*.

NEWS NOTES

A new kind of gas composed of oxygen and carbon dioxide has been found serviceable in treating pneumonia.

The first sight-saving classes for school children who have defective vision were started in Cleveland and Boston 19 years ago.

A family needs about forty different food items in its diet if it is to keep physically fit says a chemist at Ohio State University.

Dr. H. S. Forgrave, St. Joseph, attended clinics in Cleveland, Philadelphia and New York during the latter part of February and the first of March.

The United States Public Health Service reports an unusual problem in industrial hygiene: a number of men in a cabinet-making plant have developed a skin irritation from handling Brazilian walnut wood.

A government economist states that it takes more than two acres of crops to feed an American as compared with one acre for a German, half an acre for a Chinese and a quarter of an acre for a Japanese, the difference being due to crop yields and variety of diet in the different countries.

Membership in the St. Louis Medical Society Library is open to members of county societies outside of St. Louis in affiliation with the State Medical Association. Annual dues are \$5.00 and entitle one to all privileges of the library including the loan of books for outside reading. Application blanks may be obtained from the Library of the St. Louis Medical Society, 3839 Lindell Blvd., St. Louis.

The Association of Assistant Physicians of Missouri met in St. Joseph, February 24, with fifteen of the members attending. Following a business session in the morning, Dr. M. Pinson Neal, Columbia, head of the department of pathology University of Missouri School of Medicine, delivered an address on cancer. He discussed the peculiarities of the disease, factors in its development, methods of prevention and other phases. The afternoon session included an address on radium and oral surgery by Dr. Earl C. Padgett, Kansas City.

Dr. Scott P. Child, Mount Vernon, was elected president of the organization; Dr. Ralf Hanks, Farmington, was elected vice president and Dr. J. W. Forman, St. Joseph, secretary.

Dr. Malvern B. Clopton, St. Louis, was elected president of the corporation of Washington University at a meeting of the board of directors on February 18. Dr. Clopton has been a member of the board since November, 1927. He is professor of clinical surgery in Washington University School of Medicine having been a member of the medical school faculty for many years. He received his medical degree from the University of Virginia School of Medicine and served an internship in Johns Hopkins Hospital, Baltimore. In June, 1930, Dr. Clopton gave \$250,000 toward the construction and equipment of the Rand-Johnson Memorial Wing of Barnes Hospital and in March, 1931, he gave a collection of valuable art prints to the university's projected museum.

Fire caused a \$10,000 damage to the Woodland Hospital at Moberly on March 6. Patients were removed to the Wabash Hospital across the street and none suffered any ill effects. Reconstruction work began immediately.

Dr. A. A. Werner, St. Louis, was the guest of the Montgomery County (Illinois) Medical Society at Litchfield on March 24. He conducted an endocrine clinic in the afternoon and addressed the Society in the evening on "The Growth and Sex Hormones of the Anterior Lobe Pituitary."

Dr. J. Curtis Lyter, St. Louis, was a guest of the medical staff of St. Francis Hospital, Cape Girardeau, on February 26 and delivered an illustrated address on "The Problem of Diseases of the Coronary Arteries." He delivered the same address before the Greene County Medical Society at Springfield on February 5 and before the medical faculty and students of the University of Missouri School of Medicine and the Boone County Medical Society in Columbia on March 1.

The American Proctologic Society will hold its thirty-third annual meeting in Memphis, Tennessee, on May 6 and 7. The program will include addresses by eminent men on related medical subjects, operative clinics and demonstrations. A symposium on rectal malignancy will be presented in the afternoon of the first day. An annual society dinner at the Hotel Peabody, the headquarters of the session, will conclude the meeting. Members of the Missouri State Association are invited to attend the session.

A \$40,000 deficit in operating expenses of the St. Louis Children's Hospital is necessitating the closing of Ridge Farm, which is the children's convalescent home of the hospital, according to Dr. W. McKim Marriott, head of the hospital and dean of the Washington University School of Medicine. The Farm is located on a 145-acre tract overlooking the Meramec River where sixty children from 3 to 15 years of age are being cared for. About a third of the children who are in acute need of hospital care will be moved to the St. Louis Children's Hospital and the others will be returned to their homes. The closing of Ridge Farm will leave St. Louis without any institution for chronic and convalescent children. The St. Louis Children's Hospital has no source of income except that derived from its small per cent of pay patients, its endowment and the allowance given by the Community Fund.

Three old medical books are being offered for sale by Mr. John E. Stone, Dexter, Missouri, and anyone interested should communicate with Mr. Stone. The books are "Children," by Dewees, 1829; "Elements of Hygiene," by Dunglison, 1835, and "Science and Practice of Medicine," by Aitkens (two volumes), 1872.

Dr. M. A. Bliss, St. Louis, a member of the board of managers of the state eleemosynary institutions, addressed the St. Louis Conference of Social Work in St. Louis on March 7. He pointed out that appropriations for Missouri's eleemosynary institutions have been cut so drastically that their expenses have had to be curtailed in every possible way "just to get by." He answered a series of questions which had been drawn up by the social organizations which he addressed.

Beginning with the April meeting of the Kansas City Southwest Clinical Society, Kansas City, there will be inaugurated a program of two-day symposia on vital medical subjects. At the initial meeting to be held April 19 and 20 the symposia will study heart disease. The course will consist of half-hour classes covering the various heart conditions. A complete picture of heart diseases together with demonstration of patients will be presented by members who have specialized in this subject. This two-day symposium will be given annually at the spring session of the Clinical Society.

Dr. Max Goldstein, St. Louis, was elected president of the St. Louis unit of the newly organized National Association for the Rehabilitation of Speech which was organized at the Central Institute for the Deaf, St. Louis, on March 14. The executive committee includes among its members Drs. Paul J. Zentay, James Lewald, Vilray P. Blair, Sidney I. Schwab, P. E. Kubitschek and O. W. Brandhorst, of St. Louis.

The purpose of the association will be the study and correction of defective speech in both children and adults. The first meeting will be held April 11 at the Central Institute and will be open to all persons interested in the correction of speech defects. Plans for creating the new national organization were made at the last meeting of the American Society for Studies of Disorders of Speech which met in Detroit in January. The leagues for the rehabilitation of speech will follow the same general plan as the leagues for the hard of hearing which offer corrective work and social recreation for those suffering from defective hearing.

The Kansas City Obstetrical and Gynecological Society was recently organized. The officers of the new society are: President, Dr. Theodore H. Aschmann; vice president, Dr. Buford Hamilton; secretary-treasurer, Dr. Paul Gempel, and on the executive committee, Drs. Francis E. Wilhelm and C. L. Calkins, all of Kansas City.

The following articles have been accepted for New and Nonofficial Remedies:

Abbott Laboratories

Bismo-Cymol

Calco Chemical Co., Inc.

Trichlorethylene-Calco

Tubes Trichlorethylene Calco, 1 c.c.

Riedel-de Haen, Inc.

Decholin

Decholin Tablets, $3\frac{3}{4}$ grains

Decholin-Sodium

Ampoules Solution Decholin-Sodium, 5 per cent, 10 c.c.

Ampoules Solution Decholin-Sodium, 20 per cent, 10 c.c.

E. R. Squibb & Sons

Iodobismitol—Squibb

Nonproprietary Articles

Sodium Iodobismuthite

Trichloroethylene

The following article has been exempted and included with the List of Exempted Nonmedical Articles (New and Nonofficial Remedies, 1931, p. 481):

Robert McNeil

Lubricant—McNeil

The next meeting of the St. Louis Trudeau Club will be held April 5, at the St. Louis Medical Society Auditorium. This is the regular meeting time of the St. Louis Medical Society but the Society has turned the meeting over to the Trudeau Club. The program is an address, "Silicosis and Tuberculosis," by Dr. A. E. Russell, Washington, D. C., passed assistant surgeon of the United States Public Health Service and surgeon of the United States Bureau of Mines. Dr. Russell has had charge of the field studies of the dusty trades for several years. He represented the United States Government at the International Silicosis Conference at Johannesburg, South Africa, held under the auspices of the International Labor Office of the League of Nations, serving as vice chairman of the conference in 1930. He is the author of many important works on the health of workers in dusty trades. Dr. Russell's long study of the effect of dust in the human being makes this meeting one which every member of the Society should attend.

Dr. J. H. Humphrey, St. Louis, director of the division of hygiene of the St. Louis public schools, addressed a round-table conference of the Midwest Educational Conference on April 1 at Washington University on "Finding the Hard of Hearing Child." The meeting was held under the auspices of the St. Louis League for the Hard of Hearing and problems of children and adults with defective hearing were discussed.

The American Nurses' Association recently revealed figures disclosing the overcrowded condition of the field of trained nursing. An analysis by the association of returns of the 1930 census report shows that in eighteen states and the District of Columbia the total population had increased 7 per cent over the 1920 census figures and the total number of trained nurses had increased 78 per cent. Although there remain areas of the country where nurses are not readily available and groups of patients not properly nursed, the figures for forty-two cities which were studied showed that the average nurse has no more than 149 days of employment in any given year. In Bangor, Maine, the nurse has not over 77 days of work. A study of Maine shows that in 1900 there was one trained nurse for every 5068 persons; in 1910 there was one for every 910 persons; in 1920 there was one for every 579, and in 1930 one for every 349.

A nation-wide observance on March 24 commemorated Dr. Robert Koch's announcement fifty years ago that he had discovered the germ which causes tuberculosis. Bacteria were probably seen by Leeuwenhoek before the end of the seventeenth century; the doctrine of *contagium vivum* was considered and forgotten and again after 1840 there was some revival of the theory that contagious diseases might be due to microscopic life, but it was the work of Koch, Pasteur and Lister that substantiated the germ theory of disease. Koch included in his announcement of the finding of the tubercle bacillus four steps as being necessary to prove that a definite organism is connected with a certain disease. These four postulates were: First, that a microscopic organism of a particular type should be found in great abundance in the blood and tissue of the sick animal; second, that a pure culture should be made of the suspected organism; third, that this pure culture when introduced into the body of another animal should produce the disease and, fourth, that in the blood and tissues of that animal there should be found quantities of the particular organism that is suspected of producing the disease.

A verdict in favor of the American Medical Association was returned on March 3 by a Federal court jury in the half-million-dollar libel suit filed by Norman Baker, of Muscatine, Iowa, against the Association. Baker offered nearly a score of witnesses during the four weeks of the trial to show that cures at his institute were successful but much of the testimony was ruled out after the defense counsel objected on the ground that the witnesses were not qualified to determine that their ailments were cancer. The Association did not deny the publication of articles in criticism of Baker and his methods of treating cancer, basing the defense on qualified privilege and fair comment.

Diseases which may be said to affect the Negro either oftener or less often than whites solely because of the racial factor are only those diseases which depend on differences in the skin, Dr. Harry Bakwin, of New York University and Bellevue Hospital Medical College, concludes as a result of studies of the differences between white and Negro infants in health and disease. His report appears in a current issue of *Human Biology*. As an example of the difference, rickets-preventing ultraviolet light does not penetrate the Negro skin as readily as it does the white skin. This may possibly explain why rickets and tetany occur more often in Negro than in white children in temperate regions. A second difference in the Negro skin is its reaction to external heat, Dr. Bakwin pointed out. When the external temperature is high, body temperature regulation is better in the Negro than in the white individual. This explains, in part at least, the Negro's greater ability to withstand high external temperatures and the lower incidence of heat-stroke among them.

Some investigators have found a relation between heat and the incidence of summer diarrhea. If this is true, the Negro's more effective mechanism for withstanding heat may account for the fact that in certain communities the Negro infant death rate from diarrheal diseases is no higher than the white, although the poorer hygienic conditions under which the Negro usually lives would tend to increase the death rate from this disease.

It now appears that the extract of the cortex of the adrenal gland which has become the life-saving treatment in cases of the once fatal Addison's disease has a possibly useful effect on normal as well as sick persons. This extract can increase markedly the ability of a man to carry out muscular exercise, Prof. S. W. Britton and Dr. Edward Eagle of the University

of Virginia, Charlottesville, have found. Their study will be reported in a forthcoming issue of *Science*. The glandular extract, prepared according to the method of the Princeton University investigators, Dr. W. W. Swingle and Dr. J. J. Pfiffner, was found to increase markedly the capacity of dogs to perform work, as well as to increase the muscular ability of man. In dogs the extract acted slowly reaching its maximum effect of increased energy output within five to ten days and after ten days the energy output gradually declined to the normal level.

The postgraduate course and clinical conference of the St. Louis Clinics will be held in St. Louis from May 16 to 27. During the two-week course a large variety of subjects will be presented from the fields of medicine, surgery, surgical specialties, gynecology, obstetrics and pediatrics. Subjects will be presented in a concise, interesting and practical manner with the principal purpose of bringing to the registrant the latest developments in each special field.

The entire course will be presented this year by St. Louis physicians, each eminent in the subject which he will present. Symposia of universal interest to physicians will be presented on the evenings of May 17 and 24 in the auditorium of the St. Louis Medical Society.

One of the outstanding features of the conference will be the luncheon round-table discussions which will be held daily at the various participating hospitals. These discussions are designed to permit the attending physician a closer contact with the speakers and to afford an opportunity of presenting problems arising in his practice.

The hospitals in which the postgraduate course will be given are the Barnes, St. Louis Maternity, Jewish, De Paul, Evangelical Deaconess, City Hospital No. 1, Barnard Free Skin and Cancer, St. Mary's, St. John's, Missouri Baptist and St. Luke's. Headquarters of the conference will be in the St. Louis Medical Society Building.

The physicians giving the course are all well known for their achievements in their special fields and the large amount of clinical material available in this medical center assures the registrants of a maximum amount of practical information at a minimum of expense.

Owing to the nature of the course it has been found necessary to limit the registration to one hundred. Any graduate physician is eligible to register for the course. Additional information may be obtained by addressing the St. Louis Clinics, 3839 Lindell Blvd., St. Louis.

Dr. Jacob Geiger, St. Joseph, entertained the members of Buchanan County Medical Society at a dinner at St. Francis Hotel, St. Joseph, on March 2, in celebration of his sixtieth year in the practice of medicine. Dr. Geiger shared the honors of the occasion with Dr. J. B. Reynolds, St. Joseph, who has practiced in that city for fifty years.

Addresses were delivered by Drs. Leroi Beck, J. H. Sampson, W. T. Elam, W. L. Kenney, Horace W. Carle, C. A. Good, J. P. Standley, Floyd Spencer, J. M. Bell, H. J. Ravold, H. DeLamater, Caryl Potter, Earl Senor and G. A. Lau, of St. Joseph.

Dr. Geiger was born in Obernau, Germany, and came to the United States when he was nine years old. He received his medical degree from the University of Louisville School of Medicine and began his practice in St. Joseph on March 2, 1872. He organized the St. Joseph Medical College and published the *St. Joseph Medical Herald*. He was professor of surgery in the Ensworth Medical College from 1880 to 1914. From 1890 to 1911 he was professor of surgery in St. Louis University School of Medicine spending one day a week in teaching in St. Louis, and is now emeritus professor in that institution.

Dr. Reynolds was born in Buchanan County and upon completing his medical work in Northwestern Medical College, St. Joseph, began his practice in St. Joseph where he has remained, his fifty years of service culminating on March 2.

Reports of sickness causing disability for more than one week among members of a group of industrial sick benefit associations and company relief departments reporting to the United States Public Health Service, show that the sickness incidence or frequency rate during the first nine months of 1931 was practically the same as in the corresponding period of 1930, and 24 per cent below the rate for the same months in 1929. Complete data for the last quarter of 1931 have not yet been received so a report for the year as a whole cannot be made available at this time. A mild but widespread outbreak of influenza occurred in January and February of 1931 and also during the first quarter of 1929. The sickness rate exclusive of influenza was 10 per cent below that of the preceding year and 18 per cent less than the rate for the first nine months of 1929.

The pneumonia death rate in 1931 was relatively low, considering the January-February outbreak of influenza. The pneumonia case rate for the reporting establishment was lower in the first nine months of 1931 than in the

same period of 1930 which rate in turn was lower than that of 1929. Favorable rates in 1931 compared with either of the two preceding years are shown also for bronchitis and for tonsillitis and other diseases of the pharynx and tonsils. Little change is indicated in the frequency of new cases of tuberculosis of the respiratory system but the mortality from this cause decreased in 1931.

The frequency of digestive system diseases was 12 per cent below that of the first nine months of 1930 and 20 per cent below the rate in the corresponding period of 1929. An even larger reduction is shown in the incidence of diseases of the skin. A type of illness which has not decreased but which shows a slightly higher incidence than in 1929 is the group diagnosed as neurasthenics. In 1921 when economic conditions were similar to those now prevailing especially as regards the insecurity of employment, the neurasthenia rate among industrial employees ascended. The reports cover about 25 industrial establishments employing approximately 150,000 men which have reported continuously throughout the last three years. The plants are located principally in the area east of the Mississippi and north of the Ohio and Potomac rivers.

Four memorial tablets were unveiled in the new McMillan Eye, Ear, Nose and Throat Hospital of Washington University, St. Louis, on March 15. A tablet placed in the Woodruff Eye Clinic was dedicated to Dr. Frederick Eno Woodruff, St. Louis, who with his wife endowed the clinic. Dr. Woodruff is assistant professor of ophthalmology in Washington University. The tablet was unveiled by Dr. Woodruff's daughter and the dedication speech was made by Dr. Harvey J. Howard, director of the hospital and of the Oscar Johnson Research Institute.

The late Dr. Greenfield Sluder was memorialized by the unveiling of a tablet at the entrance of the Sluder Clinic. Dr. Sluder was professor of otolaryngology in Washington University from 1905 to 1928. His son unveiled the tablet and in dedication, Dr. Lee Wallace Dean, professor of otolaryngology, said that Dr. Sluder had advanced the science of otolaryngology more than any one in his generation.

A tablet in the Shapleigh Ward for Ear Patients was dedicated to the memory of Dr. John B. Shapleigh, professor of otology at Washington University from 1865 until 1922. The ward was endowed by members of his family. Dr. McKim Marriott, dean of the School of Medicine, paid tribute to Dr. Shapleigh as one of the great group of medical men

in St. Louis in the eighties. Dr. Shapleigh helped to reorganize Washington University on its present basis.

Dr. John F. Shoemaker who died recently was memorialized by a tablet in the Shoemaker Ward which he had endowed. Dr. Lawrence Post, professor of clinical ophthalmology unveiled the tablet and Dr. Howard E. H. Steedman, president of the board of directors of McMillan Hospital, gave the dedication address.

The first series of the Thomas W. Salmon Memorial Lectures will be given at the Academy of Medicine in New York City on April 8, 15 and 22. Dr. Adolph Meyer, Baltimore, professor of psychiatry in Johns Hopkins University and director of the Henry Phipps Psychiatric Clinic, will deliver the addresses.

The Thomas W. Salmon Memorial Lectures were established in honor of the late Dr. Thomas W. Salmon, professor of psychiatry of Columbia University and the first medical director of the National Committee for Mental Hygiene. It is the purpose of the lectureship to stimulate and encourage original research and study in mental hygiene and psychiatry and to honor in this way those who are making outstanding contributions to scientific advancement in these fields, in this country or abroad.

Dr. Meyer is one of the world's outstanding psychiatrists and has distinguished himself as a leader in his field. He is regarded as the dean of psychiatry in this country and has contributed widely and over a long period of years to the development of his specialty, as a clinician, research worker, writer and teacher. He is also one of the pioneers in mental hygiene and gave to the movement the name it bears, contributing to its scientific development and advancement from the beginning.

Dr. Meyer's subject will be "Psychobiology." In his first lecture he will discuss the relations of mental and general medicine and will describe the position of psychobiology with reference to medicine and its associated sciences. The second lecture will present a concrete picture of some specific problems such as the schizophrenic reactions. The third will be devoted to an exposition of what is being done and what can be done in psychiatric therapy.

The following speakers responded to invitations from the Postgraduate Committee of the State Association to deliver addresses at recent meetings of the component county medical societies:

On November 12, 1931, the Southwest Missouri Medical Society met at Springfield. The guest speakers and their titles follow: Dr.

Kerwin W. Kinard, Kansas City, "The Goiter Problem of Today," illustrated with lantern slides; Dr. M. P. Neal, Columbia, "The Leukocyte Count as an Aid in the Diagnosis of Infection and as an Index to Resistance"; Dr. Charles H. Neilson, St. Louis, "Newer Theories of Nephritis"; Dr. E. H. Skinner, Kansas City, "Carcinoma of the Cervix Uteri: Its Prevention and Treatment," illustrated with lantern slides.

Dr. Albert S. Welch, Kansas City, was the guest of the Nodaway County Medical Society at Maryville, December 11, 1931, and gave a lecture on "The Clinical Interpretation of Modern Laboratory Data." On January 8 Drs. Jabez N. Jackson and John H. Ogilvie, of Kansas City, attended a meeting of the Society held at Maryville. Dr. Jackson spoke on "Carcinoma of the Breast," and Dr. Ogilvie read a paper on "Chronic Cystic Mastitis."

At the January 8 meeting of the Marion County Medical Society held at Hannibal, a symposium on pneumonia was given by the following St. Louis physicians: Dr. Paul C. Schnoebelen, "Correlation of the Clinical and Roentgenological Findings in the Diagnosis of Pneumonia"; Dr. J. E. Cook, "Treatment of Pneumonia in the Adult"; Dr. Paul J. Zentay, "Treatment of Pneumonia in the Child." On March 4 the Society had as its guests Drs. C. H. Eyermann and Clinton W. Lane, of St. Louis. Dr. Eyermann gave a talk on "Allergy," and Dr. Lane discussed "Precancerous Lesions of the Skin."

The Jasper County Medical Society had as its guest at Joplin, January 12, Dr. C. B. Francisco, Kansas City, who addressed the members on "The Diagnosis and Treatment of Anterior Poliomyelitis." This meeting was held in conjunction with the course in orthopedics and traumatic surgery given under the auspices of the Extension Department of Oklahoma University. On January 19 Dr. G. Wilse Robinson, Kansas City, read a paper before the Society on "The Intravenous Use of Glucose in Neuropsychiatric Conditions." On March 1 Dr. A. N. Altringer, Kansas City, talked to the members of the Jasper County Medical Society on "The Significance of Tonsils and Adenoids."

At a joint meeting of the Bates and Vernon-Cedar County Medical Societies held at Nevada, January 14, Dr. E. P. Heller, Kansas City, gave a talk on "New Appliances and New Methods for the Treatment of Fractures," illustrated with lantern slides.

Dr. W. T. Coughlin, St. Louis, was the guest of the Buchanan County Medical Society on January 20 and discussed the subject of "Present Status of Intracranial Surgery."

At a meeting of the St. Louis County Medical Society held at the St. Louis County Hospital on February 10 Dr. Dan G. Stine, Columbia, read a paper entitled "Some Observations on Nephritis."

The St. Francois-Iron-Madison County Medical Society was host to Drs. G. Lynn Krause and Hiram Liggett, of St. Louis, at its February 19 meeting held at Farmington. Dr. Krause talked on "Cholecystitis and Cholelithiasis," and Dr. Liggett addressed the members on "The Use of Digitalis."

OBITUARY

CHARLES WALLER HEAD, M.D.

Dr. Charles W. Head; Windsor, a graduate of the Missouri Medical College, St. Louis, 1877, died at his home January 11 following a stroke of paralysis, aged 76.

Dr. Head was born near Lincoln, Benton County, Missouri. He received his preliminary education in the University of Missouri. Following the completion of his medical studies he practiced four years at Millersburg and four years at Centralia and for forty-seven years he practiced his profession in Windsor. He was active until the very last in his chosen work, in the community life and in the church where he had been a consecrated member for many years. He had been a faithful teacher in the Sunday School for nearly half a century. He was a man of generous impulses and never forgot the hospitable ways of the pioneer. The stranger, even though a beggar, never failed to find food or shelter if he sought it at his hands. He was gentle and kind at the bedside of the sick and delighted in all kinds of neighborly offices.

Dr. Head was a loyal member of organized medicine and served the Henry County Medical Society well. He was elected an Honor Member of the Society on December 17, 1930.

He is survived by two sons and a daughter.

ROY MESSER CATER, M.D.

Dr. Roy M. Cater, Marceline, a graduate of the National University of Arts and Sciences, St. Louis, 1906, died at the Putman Memorial Hospital on March 15 of a kidney disease. He was 50 years old.

Dr. Cater was the son of the late Dr. W. A. Cater and moved from Edina to Marceline with his family when he was 6 years old. He received his preliminary education in the State Normal School at Kirksville and the University of Kansas. After completing his medical studies he entered practice with his father

and they continued in practice together until his father's death in 1917. The father established a drug store early in his career in Marceline and Dr. Cater continued the store.

During the World War Dr. Cater served in the base hospital at Camp Sevier, Greenville, South Carolina, with the rank of First Lieutenant, M. C. He was a charter member and one of the organizers of the Theodore Roosevelt Post of the American Legion in Marceline.

Dr. Cater was ever earnest in his interest in medicine and his endeavors were repaid by a large and devoted clientele. He was a member of the Linn County Medical Society, the State Medical Association and a Fellow of the American Medical Association.

In 1925 Dr. Cater embarked upon a public career which was as successful as his medical career and embodied practically every phase of Marceline's community life. He was chairman of the first Tri-County Fair and held that office until his death. He served as president of the Chamber of Commerce and was elected mayor of the city in 1926 and again in 1928. During his administration many improvements were developed. In 1928 he was elected representative to the State legislature from Linn County.

Dr. Cater's death was mourned by all in his community, by those who had known him as an attending physician and those who had known him as a citizen devoted to movements for progress.

He is survived by his widow, Mrs. Nina Cater, a sister and a brother.

HOWARD HILL, M.D.

The death of Dr. Howard Hill on February 24 causes the Jackson County Medical Society to pause and pay tribute to the memory of one of its most brilliant and colorful surgeons. Dr. Hill was one of the old guard largely responsible for the development of modern surgery in the middle west, whose ranks are rapidly thinning.

Early in his career he became absorbed in the study of anatomy and through his dogged and unflinching perseverance he became recognized as probably the best surgical anatomist in the middle west, which enabled him to reach the pinnacle of professional accomplishment. He studied, taught and lived anatomy and was never too busy or too tired to give an anatomical demonstration to a brother physician or a nurse.

Dr. Hill spent most of his early professional life in the dissecting room. Here he developed what is thought to be the most satisfactory

operation for the anatomical restoration of the female pelvic floor that has yet been devised. While he never gave it extensive publicity it is quoted in practically all the gynecological textbooks.

Early in his student life at the Kansas City Medical College Dr. Hill attracted the attention of Dr. J. D. Griffith who realized his possibilities as a surgeon. Upon his graduation, Dr. Griffith presented Dr. Hill with a set of surgical books which had just been published by a classmate of his, Dr. Bull, of New York. This gave added impetus to his ambition to enter the field of surgery.

It was a great shock to him when, about seven years ago, he had a cardiac attack that was diagnosed by a competent heart specialist as angina pectoris, "the doctor's disease." He accepted the sentence gracefully, but from that time on he became "heart conscious." He constantly preached that an individual with a heart trauma should adapt his life to his heart and not attempt to make his heart adapt itself to his life, but he did not practice that injunction. His daily accomplishments were far in excess of his warranted physical strength. He very probably realized that the day and the hour for the execution of the sentence was definitely determined because several days before his death he remarked that he had already lived three years longer than his normal expectancy.

Dr. Hill was a man's man. He loved the great out-of-doors where nature and wild life had not been despoiled by the devastating hand of man. On the exterior he was rugged, virile and determined, but this was often used as a mask to hide a big heart that was ever responsive to the appeal of human sufferings. He was most successful in the face of an emergency where his surgically trained mind accurately interpreted the condition and his skilled hand executed the indicated procedure. Although his name was not embellished with a long line of earned or honorary degrees, he was a highly educated man possessing a rare and fascinating personality. He had a national reputation as a surgeon and was particularly known as a pelvic surgeon. He was an understanding counselor, a loyal friend in need and a master surgeon. "The living memory of the man is as inspiring and blood-quickenning as a trumpet call."

During the World War Dr. Hill was in the service of the United States Army, but was retained at home by the War Department to condition men for duty. He worked from six to eight hours a day in the operating room, with a captain's pay. Often when he was at the breaking point from nervous strain and overwork he would get into his car and spin

along the highway for twenty or thirty miles until he would find a green pasture. There he would sit for hours watching a herd of innocent-faced cows standing peacefully under shade trees switching their tails and leisurely chewing their cud. The tranquillity of the landscape and the influence of these slow-motion artists gave him strength to return to the city and "carry on."

His practical observations of human nature and life were a valuable asset to him in his practice as a surgeon. On one occasion he performed a major operation on a neurasthenic patient who was left in the charge of a nervous nurse. As was his custom, he saw his patient in the evening of the day of the operation and found her condition to be satisfactory. About 11 o'clock that night, just as he was dropping off to sleep, the telephone rang and the nurse in charge of the case informed him that the patient was restless and could not sleep. "All right," Dr. Hill replied, "give her a hypodermic, then take one yourself and go to bed."

During Dr. Jabez Jackson's brilliant career as an outstanding platform orator he never appeared to better advantage, nor mastered a more difficult assignment than at Dr. Hill's funeral service. With a heart bursting with affection for a true friend and a fallen comrade, Dr. Jackson never faltered in his duty. The theme of his masterful effort was that of Mark Anthony at the burial of Cæsar: "My heart is in the coffin there with Cæsar, and I must pause till it come back to me." In elegant style and perfect sequence he related the high lights in Dr. Hill's professional career and with graceful poise he paid final tribute to his life-long friend and associate. In the practice of medicine and surgery they often assisted each other, and it became Dr. Jackson's privilege in line of duty to assist Dr. Hill in his final journey.

During the time that Dr. Hill's body lay in state at St. Joseph's Hospital many individuals from the byways of life came to do him homage. Two Western Union messenger boys whom he had befriended stood side by side with men and women in the higher walks of life, to pay their respects to him. At the cemetery an aged colored man and woman watched the ceremonies with swimming eyes. These small courtesies accumulated to show the democracy of Dr. Hill's generous service.

Dr. Hill was always loyal to St. Joseph's Hospital and was a sincere friend to the Sisters. They, in turn, always exhibited a sympathetic understanding and tolerance to his many moods, occasioned by illness and strain from overwork, and to them must be extended an

expression of eternal gratitude.—M. A. H. in the *Jackson County Medical Journal*.

The Kansas City *Journal-Post* carried the following editorial upon the death of Dr. Hill:

Dr. Howard Hill, one of the greatest of Kansas City surgeons, died as he would have preferred to die, with no long anguish of invalidism, no dimming of his powers of brain and skill of hand. He went swiftly, in the midst of his strength, because his great heart suddenly wore out.

It was, indeed, a great heart, as Dr. Hill's brain was great. Hundreds, perhaps thousands, who have known Dr. Hill in the course of a lifetime of service, know how warmly human he was. Externally, sometimes he was brusque; really, he was unfailingly kind and considerate. He gave away thousands of dollars' worth of time and services to people who could not afford to pay for them, and was glad he had the skill to give.

To know Dr. Hill was a privilege and a joy. He was a man who did his own thinking, about many things beside medicine and surgery. He loved living, laughter, color, the companionship of men and women, and never was happier than when after a day's hard work—all his days were full of hard work—he could have his friends as guests under his own roof.

It is something to have lived as Howard Hill did. The measure of the man is indicated in some degree by the fact he rose from farm boy and cable car gripman to leadership as a surgeon. But that success does not adequately measure the man. Many men have succeeded and gone to their graves, the only pleasure that they left behind for others being fat estates.

Dr. Hill left more than that. He left an intangible estate in which all who knew him share, and that was his example and his character. The living memory of the man is as inspiring and blood-quickenning as a trumpet call.

PRESENT STATUS OF ANESTHESIA PROBLEM

ARTHUR DEAN BEVAN, Chicago (Journal A. M. A.), reviews briefly the subject of anesthesia, tests the various anesthetic agents by the scheme of measurement which his associates and he have devised, and attempts in a judicial way to determine what anesthetics are today the safest, most efficient and most practical for use in a general surgical clinic. He believes that the use of chloroform, of intraspinal anesthesia, of intravenous anesthesia, of intrarectal anesthesia, of intratracheal anesthesia and of the so-called basic anesthetics, such as scopolamine, avertin and amytal must be limited to very narrow fields. Fortunately, local anesthesia, gas anesthesia and ether afford three anesthetic measures which, if handled by an expert, can be used alone or in sequence, with abolition of pain and, if desired, the abolition of consciousness and, when required, complete relaxation, and can secure complete and safe anesthesia for any and all surgical operations. This places anesthesia on a very unpretentious, simple basis, but here, as in all fields of surgery, it finally becomes apparent that simplicity is near truth. The author believes that the general adoption of this simple scheme of anesthesia will prevent many anesthetic accidents and save many lives.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL FOR 1932

(UNDER THIS HEAD WE LIST SOCIETIES WHICH
HAVE PAID DUES FOR ALL THEIR MEMBERS)

HONOR ROLL

Ste. Genevieve County Medical Society,
December 16, 1931.

Miller County Medical Society, Decem-
ber 23, 1931.

Mercer County Medical Society, Decem-
ber 24, 1931.

Camden County Medical Society, January
5, 1932.

Johnson County Medical Society, Janu-
ary 20, 1932.

Dent County Medical Society, January 22,
1932.

Macon County Medical Society, February
10, 1932.

Webster County Medical Society, March
21, 1932.

MISSOURI STATE MEDICAL ASSOCIA- TION—75TH ANNUAL SESSION

Jefferson City, May 23, 24, 25, 26, 1932

PRELIMINARY PROGRAM

Guests

Bell, E. T., Minneapolis, Minn.: A Clinical and
Pathological Study of Primary Hypertension.

Bell, E. T. In Symposium on Diseases of the Kid-
ney: A Clinical and Pathological Study of Glom-
erulonephritis and Nephrosis.

Cary, Edward H., Dallas, President-Elect, Ameri-
can Medical Association: The Relationship of the
Modern Doctor to the Public.

Caulfield, H. S., Jefferson City, Governor: Ad-
dress of Welcome.

Lee, Burton J., New York City: Indications for
Surgery and the Indication for Irradiation in the
Treatment of Cancer.

Lee, Burton J. In Symposium on Carcinoma of
the Breast: End-Results in the Treatment of Can-
cer of the Breast.

Middleton, Wm. S., Madison, Wis.: In Symposium
on Syphilis: Syphilis of the Circulatory System.

Symposia

Symposium on Diseases of the Ear, Nose and
Throat:

Connell, E. S., Kansas City: Sinus Disease.

Spencer, Selden, St. Louis: Mastoid Disease.

Sauer, W. E., St. Louis: Sinus Thrombosis.

Gilkey, Harry M., Kansas City: Thymic Deaths.
Symposium on Carcinoma of the Breast:

Jackson, Jabez N., Kansas City: Clinical Mani-
festations of Diseases of the Breast.

Ogilvie, John H., Kansas City: The End-Re-
sults in the Surgical Treatment of Carcinoma
of the Breast.

Lockwood, Ira H., Kansas City: Roentgen Ray
Examination of the Breast.

Lee, Burton J., New York City: End-Results in
the Treatment of Cancer of the Breast.

Symposium on Diseases of the Kidney:

Bell, E. T., Minneapolis, Minn.: A Clinical and
Pathological Study of Glomerulonephritis and
Nephrosis.

Black, Donald R., St. Louis: Treatment of
Nephritis.

Caulk, John R., St. Louis: Tuberculosis of the
Kidney.

Burford, C. E., St. Louis: Tumors of the Kid-
ney.

Hoffmann, R. Lee, Kansas City: Stones and
Pyogenic Infections.

Symposium on Syphilis:

Middleton, Wm. S., Madison, Wis.: Syphilis of
the Circulatory System.

Schwab, Sidney I., St. Louis: Syphilis of the
Nervous System.

O'Reilly, Archer, St. Louis: Syphilis of the Os-
seous System.

Dennie, Charles C., Kansas City: Hereditary
Syphilis.

James, Mr. J. J., Kansas City: Presence of
Syphilis in Compensation Cases From the
Standpoint of the Workmen's Compensation
Commission.

Stookey, Paul F., Kansas City: Presence of
Syphilis in Compensation Cases From the
Standpoint of the Physician.

Scientific Papers

Allen, Edgar, Ph.D., Columbia: Hormone Control
of Changes in the Endometrium During the Men-
strual Cycle.

Anderson, A. L., Springfield: The Value of Rou-
tine Basal Metabolism in the Examination of Pa-
tients.

Chandler, John F., Oregon: Dispensing as an
Art.

Clinton, Lloyd B., Carthage: Pediatric Surgery.
Conrad, A. H., St. Louis: Precancerous Lesions of
the Skin; Illustrated with Lantern Slides.

Elliott, B. Landis, Kansas City: The Connections
and Diseases of the Cerebellum.

Emmert, Fred, St. Louis: The Care of the Breasts
During Pregnancy and the Puerperium; Illustrated
with Lantern Slides.

Engman, M. F., Jr., St. Louis: The Pathogenesis
of Acne Vulgaris.

Gayler, W. C., St. Louis: Indications for Cesarean
Section.

Ginsberg, A. Morris, Kansas City: Fever in Thyro-
toxicosis.

Glassberg, B. Y., St. Louis: The Differentiation
of True Diabetes and Pseudo Diabetes (Lantern
Slides).

Glenn, E. E., Mount Vernon: Types of Onset in
Pulmonary Tuberculosis.

James, Joseph D., Springfield: Improved Hospital
Service and the Public.

Johnson, Emsley T., Kansas City: Cinchophen
Poisoning: Clinical and Experimental Evidence.

Kauffman, Daniel E., St. Louis: Arthritis of the
Knee.

Kramolowsky, H. H., St. Louis: Urological Diag-
nosis (Motion Picture).

Lamb, H. D., St. Louis: Foci of Attack in the
Prevention of Blindness in Missouri.

Lemoine, A. N., Kansas City: Advances in Oph-
thalmology.

Lowenstein, Paul S., St. Louis: Respiratory In-
fections That Mimic Appendicitis: Their Importance
to the Surgeon.

Luton, Sinclair, St. Louis: The Clinical Use of Digitalis.

McAlester, A. W., Jr., Kansas City: Headaches of Ocular Origin.

Munsch, A. P., St. Louis: Arthritis.

Myers, B. L., Kansas City: Peripheral Burn: Pathology and Treatment.

North, E. P., and Jones, Vincent L., St. Louis: Retinal Detachment Subsequent to Proliferative Changes and Pigment Epithelium Simulating Neoplasm.

Ockerblad, N. F., Kansas City: The Correction of Prostatic Obstructions and Vesical Neck Deformities by Means of the Resectoscope.

Padgett, Earl C., Kansas City: Surgical Rest and Compression for Pulmonary Tuberculosis. A Résumé of the Rationale, Indications and Results.

Pflaum, C. C., Columbia: A Postmortem Analysis as to Etiology in Seven Hundred Forty-Two Cases of Peritonitis.

Post, M. Hayward, St. Louis: Incipient Cataract: Its Incidence and Care.

Rainey, Warren R., St. Louis: Colostomy; Illustrated with Lantern Slides.

Robinson, G. Wilse, Jr., Kansas City: The Indefensible Use of Morphine by the Medical Profession.

Smith, E. Sanborn, Kirksville: The Problem of the Narcoleptic.

Spector, H. I., St. Louis: Recent Advances in the Etiology and Treatment of Acute and Chronic Suppuration of the Lungs.

Stryker, G. V., St. Louis: Keratoses of the Face and Hands.

Tobias, Norman, St. Louis: The Modern Management of Acne Vulgaris.

Tripodi, A. M., and Sherwin, Charles F., St. Louis: Experimental Transplantation of the Pancreas Into the Stomach. (Preliminary Report.)

ASSOCIATION OF ASSISTANT PHYSICIANS OF MISSOURI STATE HOSPITALS

The meeting of the Missouri State Hospital physicians was held at State Hospital No. 2, St. Joseph, February 24. The session convened at 9:00 a. m. with the president, Dr. T. R. Frazer, Fulton, in the chair.

The address of welcome was given by Dr. George A. Johns, superintendent of State Hospital No. 2, St. Joseph.

Dr. F. H. Maples, Marshall, responded with a short talk.

The first paper on the scientific program was one by Dr. M. Pinson Neal, Columbia, on "The Peculiarities of, Predispositions to, and Prophylaxis Against Cancer."

At the afternoon session Dr. Earl C. Padgett, Kansas City, spoke on "The Position of Radium and Surgery in the Treatment of Oral Cancer About the Face, Mouth and Jaw."

At 7:00 p. m. there was a dinner with the Buchanan County Medical Society, and Dr. Joseph Grindon, of St. Louis, was the principal speaker.

CALDWELL-LIVINGSTON COUNTY MEDICAL SOCIETY

The organization of the Caldwell-Livingston County Medical Society was completed at a meeting held in Chillicothe, January 25, in the office of Dr. R. J. Brennan.

The election of officers for 1932 resulted in the following being elected: President, Dr. C. H. Wilbur, Polo; vice president, Dr. R. J. Brennan, Chillicothe; secretary-treasurer, Dr. Donald M. Dowell, Chillicothe; curator, Dr. E. A. B. Thompson, Breckenridge; delegate, Dr. E. A. B. Thompson, Breckenridge; alternate delegate, Dr. R. Barney, Chillicothe; board of censors, Drs. G. S. Dowell, Braymer, and A. J. Simpson, Chillicothe.

Plans for the year's activities were discussed. The meeting adjourned at 9 o'clock.

The following members were present: Drs. R. J. Brennan, R. Barney, Donald M. Dowell, A. J. Simpson and J. H. Timberman, of Chillicothe; G. W. Carpenter, Utica; C. H. Wilbur, Polo; G. S. Dowell, Braymer; E. A. B. Thompson, Breckenridge. Visitor, Dr. H. S. Dowell, Chillicothe.

DONALD M. DOWELL, M.D., Secretary.

CLAY COUNTY MEDICAL SOCIETY

The first meeting of the Clay County Medical Society for 1932 was held at the Elms Hotel, Excelsior Springs, February 25, at 6:30 p. m. An Elms dinner preceded the scientific session and the meeting of the Woman's Auxiliary. Forty-nine were seated at the banquet table.

Our new president, Dr. S. D. Henry, Excelsior Springs, is four-square for a bigger and better medical organization. Our outlook is mighty good.

Dr. W. W. Buckingham, Kansas City, occupied the forefront of the program with "Surgical Treatment of Pulmonary Tuberculosis." Boldly the doctor struck out in conditions that had defied all known medical treatment, and for his reward, "making good, useful citizens out of many that were hopeless." A fine collection of skiagrams illustrated the doctor's results at varying phases of the treatment. Of course, surgery may sever nerve trunks and enforce rest for the invaded tissues. Methods of various experimenters were compared with surgery to the great credit of the latter. Everyone enjoyed Dr. Buckingham's lecture and gave him a rousing vote of appreciation.

Mrs. David S. Long, Harrisonville, president-elect of the State Auxiliary and president of Missouri's Federation of Woman's Clubs, was present and delighted the ladies with a splendid talk. Mrs. W. H. Goodson, Liberty, spoke very entertainingly on "Portraits of Washington."

This writer supplemented the scientific program with "Ascites, Treated by Guess-Work." Mortality rate in thirty-nine years, 100 per cent. My last case, reported here, fetched it down to 99.6 per cent.

Dr. S. R. McCracken, Excelsior Springs, showed a roentgen ray of a case of thrombophlebitis. Much interest was manifested in the case.

J. J. GAINES, M.D., Secretary.

COLE COUNTY MEDICAL SOCIETY

At the December 15 meeting of the Cole County Medical Society the following officers were elected: President, Dr. W. A. Clark, Jefferson City; vice president, Dr. F. W. Gillham, Jefferson City; secretary-treasurer, Dr. James A. Hill, Jefferson City; censor, Dr. L. David Enloe, Jefferson City; delegate, Dr. James Stewart, Jefferson City; alternate delegate, Dr. H. S. Gove, Linn.

Since 1916 we have been using the case records of the Massachusetts General Hospital, edited by Dr. Richard C. Cabot, as a basis for our discussions. In 1916 when Dr. W. A. Clark was visiting at Boulder, Colorado, he attended a Cabot Club luncheon. He became enthusiastic and reported his impression of such a club luncheon as being suitable to our wants and needs. The secretary, Dr. James A. Hill,

was a subscriber to these case records, so the Society immediately began holding Cabot Club luncheons each week at Tuesday noon.

The members take their turn in presenting a case for study from these records. The records are delivered sealed to the member chosen and he selects the case which he wishes to present and has copies of the case made up to the discussion and diagnosis. A copy is placed in the hands of each physician who studies the case so that he will be ready to discuss it and give his diagnosis. The discussion and diagnosis of Dr. Cabot, or of his assistants, together with the final diagnosis and pathological findings are then read. As the final diagnosis is usually postmortem or corroborated by a close follow-up study, each member can see his errors in discussion and diagnosis.

In the sixteen years that we have studied these case records we have found that these weekly meetings have done us far more good than any other program. We are enthusiastic about it and find it creates among us that feeling of fellowship and good will that is much needed in our profession. We learn to give and take in our discussions and the general discussion aids us in solving perplexing cases. We heartily recommend these case records to all county medical societies.

In addition to our weekly meetings we hold monthly staff meetings at St. Mary's Hospital where our successes and failures are discussed. It is largely through our study of case records that our work at St. Mary's Hospital has been of high standard.

JAMES A. HILL, M.D., Secretary.

COOPER COUNTY MEDICAL SOCIETY

At the annual meeting of the Cooper County Medical Society held at Boonville, January 21, the following officers were elected for 1932: President, Dr. Alex Van Ravenswaay, Boonville; vice president, Dr. G. L. Chamberlain, New Franklin; secretary-treasurer, Dr. T. C. Beckett, Boonville; delegate to State Meeting, Dr. W. H. Ziegler, Boonville; alternate delegate, Dr. M. S. McGuire, Boonville. Dr. O. W. Cochran, Boonville, was continued as an Honor Member.

T. C. BECKETT, M.D., Secretary.

JOINT MEETING OF GENTRY, HARRISON AND WORTH COUNTY MEDICAL SOCIETIES

The Tri-County Medical Association, composed of the counties of Gentry, Harrison and Worth, met at dinner in the New Albany Hotel, Albany, December 4. Those who attended were: Dr. and Mrs. L. H. Fuson and Dr. and Mrs. E. M. Shores, of St. Joseph; Dr. W. J. Harned and Miss M. Buis, of Bethany; Dr. and Mrs. C. F. Forbis, New Hampton; Dr. and Mrs. J. K. Phipps, Dr. and Mrs. P. J. Ross and Dr. and Mrs. G. W. Hall, of Grant City; Dr. and Mrs. J. A. Crockett, of Stanberry; Dr. and Mrs. G. W. Whiteley, Dr. and Mrs. W. S. Campbell and Dr. and Mrs. W. T. Martin, of Albany. Dr. W. T. Martin acted as toastmaster.

The main features of the evening's entertainment were talks by our guests, Drs. L. H. Fuson and E. M. Shores. Dr. Fuson addressed the gathering on "Neuroses," and Dr. Shores read an interesting paper on "Lung Abscess."

These talks were followed by a general discussion.

The following officers were elected for 1932: President, Dr. W. T. Martin, Albany; vice president of Harrison County, Dr. W. J. Harned, Bethany; vice president of Worth County, Dr. J. K. Phipps, Grant City; secretary, Dr. J. A. Crockett, Stanberry.

The meeting was very interesting and beneficial.

J. A. CROCKETT, M.D., Secretary.

JASPER COUNTY MEDICAL SOCIETY

The Jasper County Medical Society met February 2, at Joplin, with twenty-one members and four visitors present.

On motion of Dr. J. A. Chenoweth, seconded by Dr. A. B. Clark, the secretary was instructed to write our state Senator and Representative protesting against the revivification and perpetuation of the Sheppard-Towner Maternity and Infancy Act.

Dr. W. S. Loveland, Joplin, reported further on a case of fracture of the femur in a 78-year-old woman, first reported at the November 3 meeting. The patient is now up and about and doing her house work. She has a little shortening and hence a limp, but a very satisfactory functional result.

Dr. Paul W. Walker, Joplin, read an interesting paper on "Urinary Cystitis," outlining the various etiological factors and stressing the point that with the exception of direct implantation by instrumentation the etiology lies outside the bladder. Therefore the treatment should not be directed to the bladder alone but the causative factor should be found and corrected.

The discussion was opened by Dr. Leroy W. Baxter, followed by Drs. J. W. Barson, L. B. Clinton, J. A. Chenoweth, L. C. Chenoweth, B. L. Myers, S. A. Grantham, H. A. Leaming, and S. H. Miller. Dr. Walker closed the discussion.

Meeting of February 9

The meeting was called to order by the president, Dr. Jesse E. Douglass, Webb City. There were forty-eight members and visitors present. The guests of the Society were Drs. W. M. Ketcham and M. A. Hanna, of Kansas City.

Dr. Ketcham gave a lecture on "Endocrinology."

Dr. Hanna read a paper on "Secondary Perineorrhaphy Following Labor."

These papers were very comprehensive and were followed by interesting discussions.

Meeting of February 16

Dr. J. E. Douglass, Webb City, President, called the meeting to order at Joplin with twenty-five members, six visitors and one guest, Dr. R. Lee Hoffman, Kansas City, present.

A communication from Congressman Joe L. Manlove in regard to the Sheppard-Towner Maternity and Infancy Act was read.

The scientific program was furnished by Dr. Hoffman. He presented a paper on "Diseases of the Female Urethra." The paper was compendious and showed how much attention must be given to such a small part of the anatomy. A lengthy discussion followed.

Meeting of March 1

The Society met at Joplin with the president, Dr. J. E. Douglass, Webb City, in the chair. Twenty-five members and visitors were present.

The application for membership of Dr. James J. O'Brien, Webb City, was read and referred to the board of censors.

The secretary read a letter from Dr. R. S. Dinsmore, Jr., of the Cleveland Clinic, accepting an invitation to speak to the members at Joplin, Tuesday, April 5. Dr. A. B. Clark moved that a dinner meeting be held at that time to which the profession of the surrounding district be invited, and that a committee with power to act be appointed to make the necessary arrangements. The motion was seconded by Dr. L. C. Chenoweth and carried. The president appointed Drs. A. B. Clark, chairman, H. L. Wilbur and O. T. Blanke as the committee on arrangements.

Under the direction of the Postgraduate Committee of the State Association Dr. A. N. Altringer, Kansas City, gave us a talk on "The Significance of Tonsils and Adenoids." He presented numerous interesting observations and his talk was of such a practical nature that it was well received by every one.

Meeting of March 8

The Society met at Joplin, but on account of the inclement weather only eight members attended.

A case of hypertrophy of the prostate gland with vesical neck obstruction in a man only thirty-eight years old was reported by Dr. Paul W. Walker, Joplin.

A symposium on "Influenza" was opened by Dr. C. T. Reid, Joplin, who discussed "Nose and Throat Manifestations."

Dr. S. H. Miller, Joplin, followed with "Chest Involvements and General Treatment."

Dr. A. B. Clark, Joplin, talked on "Gastro-Intestinal Symptoms."

"The Surgical and Other Complications" were discussed by Dr. B. E. DeTar, Joplin.

Dr. Paul W. Walker, Joplin, closed the symposium with a paper on "Urinary Involvements."

After discussion by the other three members present the meeting adjourned.

O. T. BLANKE, M.D., Secretary.

LAFAYETTE COUNTY MEDICAL SOCIETY

The Lafayette County Medical Society met at Odessa, February 23, with the president, Dr. Odus Liston, Oak Grove, in the chair. Those present were: Drs. T. R. Butler, Lexington; Frank W. Mann, Wellington; E. L. Johnston, Concordia; W. E. Martin, E. B. Nisbit and R. C. Schooley, of Odessa; W. A. Braecklein, J. De Voine Guyot and W. E. Koppenbrink, of Higginsville; J. B. Willis, Mayview. Drs. J. T. Anderson, O. B. Hall, R. F. McKinney, L. J. Schofield and W. R. Patterson, of Warrensburg, representing the Johnson County Medical Society, were guests.

Dr. O. B. Hall, Warrensburg, presented a paper on "Senility: Its Relation to Medicine."

Dr. H. F. Suits, former president of the Missouri State Veterinary Association, spoke on "The Relation of Contagious Abortion to Medical Practice."

Both papers were excellent, well presented and thoroughly discussed.

In order to make the meetings of both the Johnson County and Lafayette County Medical Societies more interesting and helpful it was agreed that during this year as many members as possible of the one society attend meetings of the other society. The societies have not been hyphenated but our interests are mutual and we enjoy each other's hospitality.

J. DE VOINE GUYOT, M.D., Reporter.

LAWRENCE-STONE COUNTY MEDICAL SOCIETY

The Lawrence-Stone County Medical Society elected the following officers for 1932 at its meeting of March 1: President, Dr. H. L. Kerr, Crane; vice president, Dr. P. A. Holmes, Mount Vernon; secretary, Dr. J. W. Smith, Verona; delegate to the State Meeting, Dr. E. E. Glenn, Mount Vernon; alternate, Dr. J. B. Stokes, Mount Vernon.

R. D. COWAN, M.D., Secretary.

NODAWAY COUNTY MEDICAL SOCIETY Meeting of February 12

The Nodaway County Medical Society met in the lecture room of the Sisters of St. Francis Hospital, Maryville, February 12. The president, Dr. Wm. M. Hindman, Burlington Junction, called the meeting to order at 7:45 p. m. with the following members present: Drs. C. T. Bell, L. E. Dean, R. C. Person, Jack Rowlett, and Wm. Wallis, Jr., of Maryville; Dr. Wm. M. Hindman, Burlington Junction; Dr. R. B. Bridgeman, Jr., Hopkins, and Dr. Charles D. Humbert, Barnard. Guests: Drs. Harry C. Berger and Charles C. Dennie, of Kansas City; Drs. Earl Braniger, E. L. Enis, Jesse Miller, and H. L. Stinson, dentists, of Maryville, and several Sisters from the Hospital staff.

The amendment to the by-laws offered by Dr. C. V. Martin at the January meeting was ordered reread. Dr. Wm. Wallis, Jr., moved that the amendment be adopted. The motion was seconded by Dr. L. E. Dean, and carried. The amendment follows:

Chapter II, Sec. 2. The regular meetings of the Nodaway County Medical Society shall be held on the second Friday of each calendar month, and the meetings shall be called to order at 7:45 p. m. of the time in common civil use. Five members shall constitute a quorum.

The secretary read a letter from Dr. E. J. Goodwin, Secretary-Editor of the State Association, referring to proposed Federal legislation on reviving the old Sheppard-Towner Maternity and Infancy Act. A protest against the enactment of such legislation had already been written to our congressman.

The meeting was then turned over to our Kansas City guests who furnished the scientific program through the courtesy of the Postgraduate Committee of the State Association. Dr. Harry C. Berger spoke on "Visceroptosis in Infants and its Relationship to Loss of Weight and Appetite." He stressed the extreme frequency of this condition and outlined the usual and the unusual signs and symptoms. He showed numerous roentgen ray films of children affected with varying degrees of visceroptosis. He correlated these pictures with the clinical features of each case. The therapeutic measures which Dr. Berger recommends include belladonna, exercise, posture, saline cathartics, and corrective supports or belts of special design.

Dr. C. C. Dennie presented an excellent essay on "The Problem of Acquired and Congenital Syphilis in Rural Communities." The principal phases of his paper concerned prevention, early recognition, and efficient treatment.

Meeting of March 12

The March 12 meeting was held in the lecture room of the Sisters of St. Francis Hospital, Maryville, with the president, Dr. Wm. M. Hindman, Burlington Junction, in the chair. Members present: Drs. C. T. Bell, J. A. Bloomer, K. C. Cummins, C. V. Martin, R. C. Person, and Wm. M. Wallis, Jr.,

of Maryville; Dr. Wm. M. Hindman, Burlington Junction; Drs. R. B. Bridgeman, Jr., and Chas. W. Kirk, Hopkins, and Dr. Chas. D. Humberd, Barnard. Guests: Drs. Hiram Day and John Hopkins, Maryville; Drs. Earl Braniger and Jesse Miller, dentists, of Maryville; Dr. Robert C. Davis, Kansas City, and several Sisters from the hospital staff.

The Secretary read the application of Dr. Hiram Day, Maryville, for membership.

The question of celebration of the Society's sixtieth anniversary next November was discussed by Drs. C. T. Bell and C. D. Humberd. Dr. Humberd suggested that the Society publish a small souvenir booklet and asked that a search for the Society's misplaced original charter be instituted.

Dr. Robert C. Davis, Kansas City, as lecturer for the Postgraduate Committee of the State Association, presented an excellent didactic lecture on "Common Disorders of the Heart; Their Symptoms and Treatment." He stressed the importance of basing all diagnoses and therapeutic measures on the actual physiology which applies to the individual diseased heart. Dr. Davis endorses the new synthetic mercury compounds, intravenously, in congestive heart failures and advocates their free use in chronic myocarditis. In heart block he recommends barium chloride as being especially valuable in controlling the fainting attacks and convulsions by increasing the ventricle's irritability. The lecture was illustrated with blackboard sketches and outlines. Many questions were answered by Dr. Davis and much interest was manifested in his valuable observations.

CHAS. D. HUMBERD, M.D., Secretary.

RANDOLPH-MONROE COUNTY MEDICAL SOCIETY

The regular meeting of the Randolph-Monroe County Medical Society was held at Moberly, February 9, with the president, Dr. L. O. Nickell, Moberly, in the chair.

A letter from Dr. E. J. Goodwin, Secretary of the State Association, was read regarding the Sheppard-Towner Maternity and Infancy Act. On motion by Dr. C. H. Dixon, seconded by Dr. M. R. Noland, and carried, the secretary was instructed to write our senators and representatives protesting against the enactment of this legislation.

Dr. M. R. Noland, Moberly, read a paper entitled "Physiology of the Gallbladder."

The following members were present: Dr. D. A. Barnhart, Huntsville; Drs. P. C. Davis, C. H. Dixon, L. E. Huber, Max Kaiser, F. L. McCormick, L. O. Nickell, M. R. Noland, and C. C. Smith, of Moberly.

F. L. MCCORMICK, M.D., Secretary.

ST. FRANCOIS-IRON-MADISON COUNTY MEDICAL SOCIETY

Meeting of December 18, 1931

The St. Francois-Iron-Madison County Medical Society met in the Bonnc Terre Hospital, Bonne Terre, December 18, 1931. Drs. A. A. Werner and A. P. Munsch, of St. Louis, were guests of the Society through the courtesy of the Postgraduate Committee of the State Association.

The application of Dr. G. T. Graves, Farmington, for membership was reported favorably by the board of censors and Dr. Graves was unanimously elected to membership.

Dr. A. A. Werner addressed the members on

"Thyroid Disease." He clearly presented a classification and symptomatology of the various thyroid disorders and outlined the treatment for each.

Dr. A. P. Munsch read a paper on "Arthritis." He particularly emphasized the importance of intelligent care and stated that many of the so-called hopeless cases were amenable to treatment.

Both subjects were presented in an interesting manner and the speakers were called upon to answer numerous questions.

Meeting of January 21

On January 21 the Society met in the courthouse at Farmington. We had as our guests Drs. B. Y. Alvis and H. H. Helbing, of St. Louis, who came as speakers through the courtesy of the Postgraduate Committee of the State Association.

Three interesting cases were presented. One was a case of acromegaly of about ten years' duration, treated with roentgen ray five years ago, with no apparent advancement in the symptoms since that time. A woman, sixty years of age, having a benign tumor of the cervix was shown, and the treatment was discussed. The third patient had an endometritis with symptoms simulating salpingitis.

Dr. B. Y. Alvis gave a talk on "The Importance of the General Practitioner in the Prevention of Blindness." He stressed the value of early recognition of the more serious eye conditions and pointed out that early and intelligent treatment was of great importance.

Dr. H. H. Helbing spoke on "Salpingitis," outlining the symptoms and differential diagnosis in a very clear manner.

Both subjects were thoroughly discussed by the members.

VAN W. TAYLOR, M.D., Secretary.

ST. LOUIS COUNTY MEDICAL SOCIETY

The regular meeting of the St. Louis County Medical Society was held at the St. Louis County Hospital, January 13, at 2:30 p. m.

Drs. Benjamin F. May, Roland W. Stuebner and Franz Arzt, of St. Louis, were elected members by transfer from the St. Louis Medical Society.

Dr. John H. Armstrong, Kirkwood, moved (1) that the Society accept and approve the report of the cancer survey in St. Louis County and the recommendations by the American Society for the Control of Cancer; (2) that the Cancer Society have permission of the St. Louis County Medical Society to use factual material in this report for the further stimulation of cancer diagnosis and treatment in other communities, and (3) that a copy of the report be sent to the secretary of the State Association. The motion was duly seconded and carried.

A very interesting and instructive paper on "The Therapeutic Management of Hypertension" was presented by Dr. Elsworth Smith, St. Louis.

A discussion followed concerning abuse of the county hospital clinics. Dr. E. O. Breckenridge, Maplewood, moved that a recommendation be made to the county court that all patients to be treated at the hospital be treated only upon the recommendation of a county physician or through the office of the health commissioner, or in case of emergency the superintendent of the hospital should act. The motion was seconded and carried.

Meeting of February 10

The meeting was preceded by a luncheon in honor of our guest, Dr. Dan G. Stine, Columbia, who was

sent to us to lecture under the auspices of the Post-graduate Committee of the State Association. There were twenty-four members and four visitors present.

Dr. Stine spoke to us on "Some Observations Upon Nephritis." The paper was a splendid portrait of diligent research and clinical experience, giving in a highly scientific style a common-sense classification of the nephritides.

A communication from Dr. E. J. Goodwin, Secretary of the State Association, regarding the revivification and perpetuation of the Sheppard-Towner Maternity and Infancy Act, was read. It was moved, seconded and carried, that our secretary write to our senators and representatives of our district and express the disapproval of the Society.

F. J. PETERSEN, M.D., Secretary.

STODDARD COUNTY MEDICAL SOCIETY

On February 16 the Stoddard County Medical Society met at Dexter. The officers who had served during 1931 were unanimously reelected for the ensuing year, as follows: President, Dr. W. C. Dieckman, Dexter; vice president, Dr. S. S. Davis, Dexter; secretary-treasurer, Dr. Frank LaRue, Dexter; treasurer, Dr. W. J. Hux, Dexter. The following board of censors was elected: Dr. J. P. Brandon, Essex (term expires, 1934); Dr. S. S. Davis, Dexter (term expires, 1933); Dr. W. J. Hux, Essex (term expires, 1932).

FRANK LARUE, M.D., Secretary.

WOMAN'S AUXILIARY

Officers 1931-1932

President, Mrs. U. J. Busiek, Springfield.

President-Elect, Mrs. David S. Long, Harrisonville.

1st Vice President, Mrs. Ralph W. Holbrook, Kansas City.

2nd Vice President, Mrs. R. S. Kieffer, St. Louis.

3rd Vice President, Mrs. H. M. Grace, Chillicothe.

4th Vice President, Mrs. W. T. Martin, Albany.

Corresponding Secretary, Mrs. F. T. H'Doubler, Springfield.

Recording Secretary, Mrs. J. A. Chenoweth, Joplin.

Treasurer, Mrs. L. S. James, Blackburn.

Auditor, Mrs. J. J. Gaines, Excelsior Springs.

CLAY COUNTY AUXILIARY

The Woman's Auxiliary to the Clay County Medical Society met in Liberty, December 17, 1931. After enjoying a sumptuous turkey dinner with their husbands, the ladies held their regular meeting. The chair was occupied by Mrs. W. H. Goodson, Liberty, in the absence of the president, Mrs. O. S. Wilfley, Excelsior Springs.

Mrs. T. G. Orr, Kansas City, was a guest and told us of the activities of the Jackson County Auxiliary, which was much appreciated.

After a delightful social hour the meeting adjourned.

MRS. Y. D. CRAVEN, Secretary.

JOHNSON COUNTY AUXILIARY

The Johnson County Auxiliary met at the home of Mrs. R. F. McKinney, Warrensburg, in Novem-

ber. It was voted to send the State Auxiliary \$5 toward the McAlester Memorial Fund, to remit state dues, and a twenty-five cent assessment per member for the Year-Book.

On December 16, the Auxiliary met with Mrs. W. R. Patterson, Warrensburg. The husbands of the Auxiliary members were guests. The Auxiliary enjoyed a lecture given at an open meeting of the Johnson County Medical Society by Dr. Richard L. Sutton, Kansas City, entitled "The Long Trck."

The January meeting was held at the home of Mrs. H. F. Parker, Warrensburg. A tentative program of hostesses for the year was made and a courtesy committee was appointed. A social hour followed.

According to Mrs. L. S. James, Blackburn, State Treasurer, Johnson County Auxiliary is the first auxiliary to send in a gift to the McAlester Memorial Fund. Johnson County has always done good work.

MRS. JOHN A. POWERS, Secretary.

LAFAYETTE COUNTY AUXILIARY

The Woman's Auxiliary to the Lafayette County Medical Society met at the home of Mrs. W. T. Martin, Albany, Tuesday, February 23. Four members of the Johnson County Auxiliary were present.

NOTES

Program outlines and year-books have been sent in by eight Auxiliaries—a good step forward.

Linn County Auxiliary, of which Mrs. Ola Putman, Marceline, is president, reported a marked increase in attendance at the November meeting. A buffet supper was served.

Lafayette County Auxiliary helped conduct the clinic for crippled children at Lexington in November.

Saline County Auxiliary welcomed six new members at their luncheon meeting in November.

In October, the Greene County Auxiliary visited the Missouri Tuberculosis Sanatorium at Mount Vernon. Each member presented several magazines to the patients.

At the third meeting of the newly organized Twenty-Sixth Councilor District Auxiliary held at Lebanon, Mrs. U. J. Busiek, Springfield, State President, reviewed the book "The Medicine Man in Texas," written by Mrs. Red who was the first national auxiliary president.

Buchanan, Cass, Gentry, Lafayette, Johnson and Vernon-Cedar County Auxiliaries have placed Hygeia in all the schools of their respective counties. Greene County Auxiliary has placed Hygeia in the city schools of Springfield. Jackson County Auxiliary has renewed subscriptions for the rural schools. St. Louis City Auxiliary has voted a Hygeia fund. Missouri leads in the number of Hygeia subscriptions sold this year. Texas is second.

PRIMARY ABDOMINAL PREGNANCY

PAUL W. BEST, Houston, Texas (Journal A. M. A.), reviews briefly the literature relative to primary abdominal pregnancy to show the rarity of this condition, and the difference in opinion as to the existence of this condition is indicated. He reports a case of primary abdominal pregnancy with unusual features and outlines a discussion of the treatment. Accepted methods of dealing with similar cases are briefly noted.

TRUTH ABOUT MEDICINES

MAZOLA (Corn Products Refining Company, New York City).—A canned refined corn oil. It is claimed to be a highly refined corn oil for baking and table uses.

TEA TABLE SANDWICH BREAD (Sliced) (Liberty Baking Company, Pittsburgh, Pa.).—A white bread made by the sponge dough method, in sliced loaf form. It is claimed to be a bread of good quality.

LIBERTY DELICIOUS BREAD (Liberty Baking Company, Pittsburgh, Pa.).—A white bread made by the sponge dough method. It is claimed to be a bread of good quality.

WALKER'S BIG DANDY BREAD AND WALKER'S REDI-SLICED BREAD (Walker Bread Company, Fort Worth, Texas).—A white bread made by the sponge dough method. It is claimed to be a bread of good quality.

GOLD MEDAL FLOUR (Associate companies of General Mills, Inc., Minneapolis, Minn.).—A self rising flour. A mixture of patent flour (Gold Medal Flour—"Kitchen-tested"), baking powder, containing monocalcium acid phosphate and sodium bicarbonate; and table salt. It is claimed to be especially adapted for cakes, biscuits and pastry baking.

GOLD MEDAL FLOUR "KITCHEN TESTED" (Associate companies of General Mills, Inc., Minneapolis, Minn.).—A moderately "strong" hard-wheat patent flour designed for general baking purposes in the home. It is claimed to be a good quality "all purpose" flour for use in home baking, standardized in baking characteristics for uniform performance under normal home baking conditions.

GOLD MEDAL FLOUR "KITCHEN TESTED" PHOSPHATE ADDED (Associate companies of General Mills, Inc., Minneapolis, Minn.).—A moderately "strong" hard-wheat patent flour admixed with 0.5 per cent monocalcium acid phosphate; adapted to requirements of the Southern markets. It is claimed to be a good quality flour containing added monocalcium acid phosphate to counteract the addition of excessive quantities of baking soda in biscuit baking and intended especially for Southern markets.

CERTIFOODS CERTIFIED NURSERY FOODS—GREEN PEAS (Curtice Brothers Co., Rochester, N. Y.).—Canned sieved green peas. The minimum content of vitamins A, B and C is certified and expressed on the label in vitamin units. No sugar or salt is added. The product is guaranteed to contain not less than 300 units of vitamin A (Sherman method), 5 units of vitamin B (complex) (Sherman and Spohn method) and 3 units of vitamin C (Sherman-LaMer method) per ounce. It is recommended for use in infant feeding and for convalescent and special diets in which a smooth diet is indicated.

CERTIFOODS CERTIFIED NURSERY FOODS—GREEN BEANS (Curtice Brothers Company, Rochester, N. Y.).—Canned sieved green beans. The minimum content of vitamins A, B and C is certified and expressed on the label in vitamin units. No sugar or salt is added. The product is guaranteed to contain not less than 250 units of vitamin A (Sherman method), 3 units of vitamin B (complex) (Sherman and Spohn method), and 2 units of vitamin C (Sherman-LaMer method) per ounce. It is recommended for use in infant feeding and for convalescent and special diets in which a smooth diet is indicated.

JERRY'S KEW-BEE REDI-SLICED BREAD (Jerry's Bakery Company, Terre Haute, Ind.).—A white bread made by the sponge dough method. It is claimed to be a bread of good quality.

DROMEDARY FRESH KEEPING COCOANUT (The Hills Brothers Company, New York).—A moist shredded coconut mixed with sucrose, glycerin and salt. It is claimed to be a coconut food of good quality.

DROMEDARY CRANBERRY SAUCE (Strained) (The Hills Brothers Company, New York).—A cooked, sweetened, sieved cranberry sauce. It is claimed to be a cranberry sauce of good quality. (Jour. A. M. A., October 3, 1931, p. 1002.)

LIBERTY GRADE A BREAD (Liberty Baking Company, Pittsburgh, Pa.).—A white milk bread made by the sponge dough method. It is claimed to be a bread of good quality. (Jour. A. M. A., August 15, 1931, p. 463.)

ROTH'S BAMBY BREAD (The A. Roth Baking Company, Inc., Newport, Ky.).—A white bread made by the sponge dough method. It is claimed to be a bread of good quality. (Jour. A. M. A., October 17, 1931, p. 1150.)

SWAN'S SLICED BREAD (Swan Brothers, Inc., Knoxville, Tenn.).—A white bread made by the sponge dough method. It is claimed to be a bread of good quality. (Jour. A. M. A., October 24, 1931, p. 1227.)

KELLOGG'S CORN FLAKES (Kellogg Company, Battle Creek, Mich.).—A cooked and toasted corn flakes cereal flavored with malt extract, sugar and salt. This product is claimed to be a good quality corn flakes, easily digested and to supply the body with heat and energy.

MEAD'S DEXTRI-MALTOSE No. 2 (Mead Johnson and Company, Evansville, Ind.).—Essentially a mixture of maltose and dextrans. This product is claimed to be especially prepared for use as a carbohydrate supplement in general infant feeding and as a valuable ingredient in the diet of adult invalids; it is used where the addition of salt is not required.

PABST-ETT (Pabst Corporation, Milwaukee, Wis.).—A "process American cheese" containing disodium and trisodium phosphates as emulsifiers, with added salt, whole milk and concentrated milk whey. The product is claimed to contain approximately 280 Sherman vitamin A units per ounce, 46 Sherman-Spohn vitamin B (complex) units per ounce, and determinable amounts of vitamin D. It is recommended for all the uses of ordinary cheese.

MEAD'S DEXTRI-MALTOSE No. 1 WITH SODIUM CHLORIDE 2% (Mead Johnson and Company, Evansville, Ind.).—Essentially a mixture of maltose and dextrans with 2 per cent added sodium chloride. Mead's Dextri-Maltose No. 1 With Sodium Chloride 2% is recommended for use as a carbohydrate supplement in the general diet of infants and is especially adapted to meet the carbohydrate requirements of infants and invalids. It is used in milk modifications suitable for children or adult invalids.

MEAD'S DEXTRI-MALTOSE No. 3 WITH POTASSIUM BICARBONATE 3% (Mead Johnson and Company, Evansville, Ind.).—Essentially a mixture of maltose and dextrans with 3 per cent added potassium bicarbonate. Mead's Dextri-Maltose No. 3 With Potassium Bicarbonate 3% is recommended for use as a carbohydrate supplement in special infant diets and other special diet mixtures for meeting carbohydrate requirements. It is used in milk modifications suitable for children or adult invalids.

BOOK REVIEWS

SIMPLE LESSONS IN HUMAN ANATOMY. By B. C. H. Harvey, M.D., Professor of Anatomy, University of Chicago. Chicago: American Medical Association. Price \$2.00.

This is another American Medical Association product that gives a delightful resumé of human anatomy with sufficient of physiology to complete the lesson. The style is excellent and the story made interesting.

Although intended for laymen as an introduction to anatomy it is excellent for medical students and nurses, and the clinician of many years' experience will find in this little volume just the review he has been seeking.

V. L. J.

ALLERGY AND APPLIED IMMUNOLOGY. A Handbook for Physician and Patient, on Asthma, Hay Fever, Urticaria, Eczema, Migraine and Kindred Manifestations of Allergy. By Warren T. Vaughan, M.D., Richmond, Virginia. Illustrated. St. Louis: The C. V. Mosby Company. 1931. Price \$4.50.

A very comprehensive handbook, conservative in character, personal as to presentation, but written in a manner that gives ample space to the different views of writers and workers on allergy. The observant reader will find much material for thought and speculation. For the casual reader, physician or patient, the field is so presented as to convey a compact picture of the subject. However, it may be doubted that the average intelligent patient will be able to labor through the book without becoming discouraged. He will have to struggle through many pages, which although very interesting are quite technical.

The book would be more practical if the paragraphs intended mainly for the physician were italicized to distinguish them from lines intended primarily for the patient. Numbers in the text conveniently refer to a quite complete bibliography. Dr. Vaughan's book may be recommended to the physician who wishes to familiarize himself with allergic problems. It will serve as a valuable introduction to an interesting and comparatively new chapter of medicine, but will dampen the enthusiasm of the beginner who might believe that allergy is the basis of all maladies and its practice a sure cure for the undiagnosed troubles of mankind.

F. I.

PRACTICAL RADIATION THERAPY. By Ira I. Kaplan, B.S., M.D., Director, Division of Cancer, Department of Hospitals, New York City, etc. With a special chapter on Applied X-Ray Physics by Carl B. Braestrup, B.Sc., P.E., Radiation Physicist, Division of Cancer, Department of Hospitals, New York City, etc. Illustrated. Philadelphia and London: W. B. Saunders Company. 1931. Price \$6.00.

This book records the personal experiences of the author in the newer developments of radiation therapy. Kaplan has been advanced to the head of the cancer service of the several hospitals and clinics conducted by the City of New York after a very successful career at Bellevue Hospital. The book reflects Kaplan's allegiance to Regaud's methods at the Curie Institute in Paris.

In the chapters upon the historical and technical factors the author offers a commendable simplicity with generous illustrations. The major portion of

the book catalogues the range of radiation therapy, with illustrations well-legended of personal cases. Some fault may be found with the brevity displayed toward many desperate situations, such as malignancy of the antrum, leukemia, etc. But there are so many gaps in our cancer therapy at the best that there is little reason to waste space upon the lamentable situations.

The book closes with chapters upon surgical endothermy and the equipment and radium possessions required in general hospitals. Kaplan's demands for radium needles and capsules are somewhat prohibitive. Certainly, his array could be considerably simplified for practical purposes. Research in radiation therapy can well be confined to endowed institutions. Why should municipalities and the poor victims carry the load? Undoubtedly there are going to be better books published upon radiation therapy, but in the meantime Kaplan's demands a place in your library, laboratory and clinic.

E. H. S.

A TEXT-BOOK OF NEURO-ANATOMY. By Albert Kuntz, Ph.D., M.D., Professor of Micro-Anatomy in St. Louis University School of Medicine. Illustrated with 197 engravings. Philadelphia: Lea & Febiger. 1931. Price \$5.50.

Kuntz' "Neuro-Anatomy" is the latest attempt to simplify the problem of neurology for the medical student. The book is written in a very understandable style and the first part is excellent. Unfortunately, the latter portions are too exact. The nerve paths have not been as clearly defined as the author shows them to be. Kinear Wilson and others have definitely shown that there is more or less flexibility to certain portions of the nervous system, yet no cognizance is taken of this work nor of Wilson's classical discussion of the function of the diencephalon in emotional control.

The author does not give any clinical pictures, which is a distinct deviation from most works of this kind. This may be desirable, but many outstanding teachers do not believe neuro-anatomy can be properly taught without occasional references to clinical illustrations, since symptoms in diseases of the nervous system do not come exclusively from altered function of the affected part but from the activity of the balance of the nervous system in the absence of the function of that part.

We especially recommend the chapters on development, topography and interstitial tissue. All the chapters describing cellular structures are excellent; but as a whole the book contains little that is new and the style is not unusual. The book would be a very satisfactory textbook for freshman medical students.

G. W. R.

GONORRHEA IN THE MALE AND FEMALE. A Book for Practitioners. By P. S. Pelouze, M.D., Associate in Urology and Assistant Genito-Urinary Surgeon at the University of Pennsylvania; Fellow of the Philadelphia College of Physicians. Second edition, revised illustrated. Philadelphia and London: W. B. Saunders Company. 1931. Price \$5.50.

This is a practical book on an exceedingly practical subject written in an easy flowing style that may be read like a story with enjoyment as well as profit.

The author stresses certain points. He says urethral injections and irrigations are of value but their value is not in their germ killing power, as we were formerly taught to believe, but in their mild

tissue stimulating properties which engender local tissue immunity. This local immunity is one of the potent factors in cure. He discusses the different injections, their strength and manner of employment. He recommends mild injections and extreme gentleness. He severely criticizes those whose fingers itch to pass instilling syringes into the gonorrheal urethra.

Vaccines are advocated but in small doses and for a brief time only. Oral medication is of little value. As far as treatment is concerned he says that one should not take the attitude that he can make the cure but that by gentle measures he must merely assist the local and constitutional efforts of the tissues.

To check up on the progress of the case he uses a graph with the two glass test as the basis which seems to be very clever and useful.

The last eleven chapters comprise a study of gonorrhea in women. He calls this part a "Study in Analogies." The male and female organs are compared anatomically and deductions made as to the proper therapeutic measures. He discusses the baneful effects of menstruation.

In discussing the drainage of glands and the recesses he says, "(1) free drainage means good curative response; (2) intermittent drainage means chronicity of infection, and (3) no drainage means self-sterilization."

Although the book was written for the practitioner and serves that purpose well, it is good for the urologist.

C. S. C.

THE PRACTICAL TREATMENT OF DIABETES. By T. Izod Bennett, M.D. (Lond.), F.R.C.P. (Lond.), Physician with Charge of Outpatients, Middlesex Hospital, Physician to the Royal National Orthopaedic Hospital, etc. Author of "The Stomach and Upper Alimentary Canal in Health and Disease," and "Nephritis: Its Problems and Treatment." New York: Richard R. Smith. 1931. Price \$2.00.

The author divides the dietetic treatment of diabetes into three stages: (a) a period of semi-starvation during which glycosuria is being abolished and pancreatic rest established; (b) a period when the diet is being cautiously built up with close observation for the possible return of glycosuria; and (c) the final period during which the ultimate diet is arrived at. He states that it is rare for more than a week to be required for each of these stages. It is also possible to complete the whole cure in fifteen days. He states, further, that any diabetic without serious complications such as phthisis may be told at the outset that it is very unlikely that more than three weeks will be required for treatment, and that it may be possible to allow him to return to work in as short a time as ten days or a fortnight. The author adds, however, that a certain amount of advice will be necessary from time to time after the completion of such a cure. The cardinal facts to be pointed out to the patient at the outset are: (1) that within a week he should be free from all major symptoms such as polyuria and thirst, and (2) that within three weeks he should be pursuing not only a normally active life but should be feeling in better health than had been the case for months previously.

The book will be of value to physicians if they have gotten into a rut in the matter of diabetes and wish to obtain a fresh viewpoint and additional notes on the use of foodstuffs.

This booklet is printed in England and is based on English nomenclature and English foodstuffs.

G. H. H.

COLLECTED PAPERS OF THE MAYO CLINIC AND THE MAYO FOUNDATION FOR 1930. Volume XXII. Edited by Mrs. Maud H. Mellish-Wilson, Richard M. Hewitt, B.A., M.A., M.D., and Mildred A. Felker, B.S. Octavo volume of 1125 pages with 234 illustrations. Philadelphia and London: W. B. Saunders Company. 1931. Price, cloth, \$13.00.

This volume is perhaps one of the most practical and useful compilations of diseases that has been published. It furnishes an encyclopedia of the cases that have presented themselves to the Mayo Clinic. As one reads he reflects that he has come across many similar cases in his practice but did not have the advantage of data as incorporated in these pages. The completeness of ideas and experiences, the arrangement of chapters and the bibliographies make it an outstanding source of information for the medical world.

W. G. B.

LIVING THE LIVER DIET. By Elmer A. Miner, M.D., Independence, Kansas. With introduction by William P. Murphy, M.D., Instructor in Medicine at the Harvard Medical School, Boston, Mass. St. Louis: The C. V. Mosby Company. 1931. Price \$1.50.

Where would one expect to find a more sympathetic understanding of a dread malady than in one who has himself suffered from the disease? Dr. Miner's brief treatise upon "Living the Liver Diet" touches the high lights of this subject and attempts to lighten a sometime arduous burden for physician, nurse, dietitian and patient.

G. E. J.

THE PRACTICE OF MEDICINE. By A. A. Stevens, A.M., M.D., Professor of Applied Therapeutics in the University of Pennsylvania, Philadelphia, etc. Third edition, entirely reset. Philadelphia and London: W. B. Saunders Company. 1931. Price \$8.00.

This third revised edition presents a conservative view of the essentials of internal medicine. Many chapters have been rewritten thus material no longer in accord with modern thought and teaching eliminated. This renders the book distinctly valuable both to physician and student of medicine.

Several new subjects have been added, as psittacosis, immunization to measles and scarlet fever, massive collapse of the lung and antitoxin treatment of erysipelas. Chapters on hyperparathyroidism, hypoparathyroidism and hypoglycemia of endogenous origin have also been added.

This book is especially well adapted for the medical student but equally valuable for the general practitioner as a work of ready reference.

R. V. P.

BULLETIN OF THE NATIONAL RESEARCH COUNCIL NUMBER 33. A Compendium of the Statute Law of Coroners and Medical Examiners in the United States. By George H. Weinmann. Issued under the auspices of the Committee on Medicolegal Problems National Research Council. Washington: The National Research Council of the National Academy of Sciences. 1931. Price \$3.00.

Although the office of coroner is one of the oldest known to our jurisprudence, many persons are still ignorant of the exact powers and the duties and obligations of the office. This volume is a careful summary of such powers and duties in our

various states, and also a consideration of the functions of medical examiner where such office exists.

This is purely a reference book on the subject and no suggestions are attempted to "reform" the office. Hope is expressed however that the laws relating to the office of coroner may some day be codified so those who live in the more remote districts shall have the full benefit of modern scientific medicolegal experience. R. L. T.

EYE, EAR, NOSE AND THROAT FOR NURSES. By Jay G. Roberts, Ph.G., M.D., F.A.C.S., Pomona, California, Licentiate, American Board Otolaryngology; Chief of Staff, Eye, Ear, Nose and Throat, Los Angeles County Health Center, etc. Illustrated with 102 half-tone and line engravings. Philadelphia: F. A. Davis Company. 1931. Price \$2.25.

The author covers his subject in a plain concise and up-to-date manner. In my opinion it is the best volume we have in our library on this subject. It is beautifully illustrated. M. B. S.

THE MONGOL IN OUR MIDST. A study of man and his three faces. By F. G. Crookshank, M.D., F.R.C.P. London. Third Edition, 1931. Kegan Paul, Trench, Trubner and Co. Ltd., London.

This extraordinary book is the result of years of research by one of the best known students of Mongoloid imbecility of all time. It is devoted to the hypothesis that this enigma constitutes a reversion to former beings existing in the earliest periods of man or rather the progenitors of man, back in the tertiary period, to his propithecanthropoid ancestors, supporting and vastly extending the original ethnic classification of the various types of imbecility, by the man who put out the first satisfactory description of Mongoloid imbecility, J. Langdon Down, in 1866. As time has gone on this classification has lost favor almost universally and Crookshank, the stout exponent of the idea, stands among the leaders as one apart. Written by a scholarly erudite gentleman who commands most excellent English it will be read with profit by any student of the subject and will elaborate many items concerning the origin and descent of man with which many of us have become somewhat hazy. A. B.

GYNECOLOGY AND UROLOGY FOR NURSES. By Samuel S. Rosenfeld, M.D., F.A.C.S., Adjunct Obstetrician and Gynecologist Lebanon Hospital, New York City; Lecturer in Obstetrics and Gynecology to Lebanon Hospital School for Nurses, etc. New York: William Wood and Company. 1931. Price \$2.00.

This is a small but attractive book containing good information and compact enough to form a ready reference for nurses. The definitions are clear with well chosen words, as illustrated in his definitions of cervicitis and endocervicitis. The language is free from highly technical words, the anatomy is briefly but clearly presented with little technical discussion and the illustrations are just enough for instruction.

The author insists that the perineum is the main supporting structure of the pelvic organs, which I am old-fashioned enough to doubt. He infers that a nurse should be able to recognize semen on the vulvae on account of medicolegal possibilities, but I would maintain that this question is not within her ability or experience to answer. The author does

not recognize the difference between cervical ectropion and erosion but calls them by the term "erosion." His viewpoint on ectopic pregnancy without mentioning the Catholic teachings will limit this volume to the Protestant student nurse. He clearly describes the futility of frequent douching in terms strong enough to impress the student reader of how little medical importance it really is.

The preoperative and postoperative technic is clear and short yet impressive with details. He stresses the point that all operations are to the patient major in type and good preparation for the so-called minor operation is just as important as for the major procedure. Each common operation is sufficiently described and illustrated to give a nurse a good idea of what the surgeon is really doing.

The book is thoroughly up-to-date with discussions of Rubin tests, lipiodol roentgen ray examinations, female sex hormones and intravenous roentgen ray diagnosis of the urinary tract. It covers the field well but no better than other such books so it enters a field of competition already overcrowded, with a simplicity of definition as its greatest predominating factor. G. F. P.

ABDOMINAL PAIN. By John Morley, Ch.M., F.R.C.S., Honorary Assistant Surgeon, Manchester Royal Infirmary; Honorary Consulting Surgeon, Ancoats Hospital, etc. With an introduction by J. S. B. Stopford, M.D., F.R.S., Professor of Anatomy, University of Manchester. New York: William Wood & Company. 1931. Price \$3.50.

This book is a consideration of the theories of the transmission and localization of abdominal pain. Mr. Morley disagrees with some of the conceptions of the development and transmission of pain which have become orthodox during the last twenty years. While he sticks to the segmental theory, (Head's zones), he disagrees with Mackenzie's interpretation of the mode of transmission from the visceral to the cerebrospinal nerves.

Mr. Morley's own theory is that the sensation of pain is started in the parietal peritoneum and transmitted through the cerebral spinal nerves. In other words, he does not accept the theory which would make pain originate in the viscera and jump over from the sympathetic to the cerebral spinal nerves. He holds that the viscerae are insensitive to pain of the ordinary sort.

His book will be of immense importance to surgeons as well as to diagnosticians. His explanation of the varying pains of acute appendicitis certainly checks better with observed facts.

Your reviewer would commend heartily the terse English, the objective presentation of the subject matter, and the fairness with which the theories are discussed. G. H. H.

SIMPLIFIED DIABETIC MANAGEMENT. By Joseph T. Beardwood, Jr., A.B., M.D., F.A.C.P., Chief of Diabetic Clinic and Associate Visiting Physician Presbyterian Hospital in Philadelphia, etc., and Herbert T. Kelly, M.D., A.A.C.P., Associate in Diabetic Clinic, Presbyterian Hospital in Philadelphia, etc. Diets prepared with the collaboration of Elsie M. Watt, A.B., Formerly Dietitian Diabetic Clinic, Presbyterian Hospital in Philadelphia. Philadelphia: J. B. Lippincott Company. Price \$1.50.

The text is divided into three chapters, namely, "History and General Considerations of Diabetes,"

"Modern Conception and Diagnosis of Diabetes" and "Unit Method Charts."

Our criticism of this book is that it is hard to understand. Apparently, it was written by the authors at odd times and never subjected to the test of being read by some layman who tried to understand what it is all about. Thus, unit charts and terminology are introduced before it is explained what they are, and when one comes to the charts one must hunt around for explanations of the abbreviations and so forth before he can understand them. The explanation of the use of the diet prescription chart on pages 68 and 69 is still somewhat vague to the reviewer in spite of an effort to work it out.

It would seem to the reviewer that it would have been wiser to separate the book rigidly into two parts, one for physicians and one for patients and not intermingle them.

As far as the reviewer can understand the book, the system used is a good one and deserves a clearer exposition.

G. H. H.

CANCER. Its Origin, Its Development and Its Self-Perpetuation. The Therapy of Operable and Inoperable Cancer in the Light of a Systemic Conception of Malignancy. A research by Willy Meyer, M.D., Consulting Surgeon to the Lenox Hill and Postgraduate Hospitals, New York Infirmary for Women and Children, etc. New York: Paul B. Hoeber, Inc. 1931. Price \$7.50.

This book presents a tremendous amount of detail about tumors. It is of value to anyone who is interested in tumors. That one should have the patience and energy to assemble such a volume seems incredible. It is more than a compilation. Here and there are observations that stimulate thought.

A. E. H.

ASTHMA AND HAY FEVER IN THEORY AND PRACTICE. Part I: Hypersensitiveness, Anaphylaxis, Allergy. By Arthur F. Coca, M.D., Professor of Immunology, Cornell University Medical College, etc. Part II: Asthma. By Matthew Walzer, M.D., Instructor in Applied Immunology, Cornell University Medical College, etc. Part III: Hay Fever. By August A. Thommen, M.D., Lecturer in Medicine, University and Bellevue Hospital Medical College, etc. Charles C. Thomas, Springfield, Illinois. 1931. Price \$8.50.

In this book Coca discusses hypersensitiveness, anaphylaxis and allergy; Walzer presents the subject of asthma, and Thommen that of hay-fever.

In part one, Coca presents the immunological aspect of anaphylaxis, atopy, hypersensitiveness of infection, contact dermatitis, serum disease, the Casoni reaction, and the Schwartzman phenomenon. He utilizes this opportunity to reiterate the distinction between anaphylaxis and atopy and presents the data to support his contention. In addition, a chapter is devoted to the preparation of extracts and solutions for use in testing and treatment in allergy. A bibliography of three hundred seventy-six references attests the thoroughness with which the subjects in this part are discussed.

Part two deals with asthma and is most comprehensive and inclusive. The many controversial phases of the asthma problem are fully discussed and an excellent summary of the present immunological and clinical aspects is presented. A detailed discussion of every important causative factor is included.

Part three is a thorough and complete presentation of hay-fever. Considerable space is devoted to its botanical aspects and is aided by many illustrations. The history of hay-fever, the etiology and mechanism, the symptomatology, the diagnosis and the nonspecific and specific treatments are presented voluminously and in detail.

There is a general index and also an index of atopens and excitants, making not only all medical data easily available, but also all the miscellaneous and accessory nonmedical information so necessary to the intelligent practice of allergy. The bibliography appended to all three parts of the book is so extensive that the book becomes valuable not only as a guide to the clinician but also as a book to which one can refer for the opinions of contemporary observers in these fields of medicine.

C. H. E.

THE METABOLISM OF TUMOURS. Investigations from the Kaiser Wilhelm Institute for Biology, Berlin-Dahlem. Edited by Otto Warburg, Kaiser Wilhelm Institute for Biology, Berlin-Dahlem. Translated from the German edition, with accounts of additional recent researches by Frank Dickens, M.A., Ph.D., whole-time worker for the Medical Research Council, Courtauld Institute of Biochemistry, Middlesex Hospital, London. New York: Richard R. Smith.

The perusal of this book will interest the practical man only as it shows the tremendous amount of detail which has been worked out in the metabolism of living cells. The only conclusion reached relative to the genesis of tumors is that there is some change in the glycolytic action.

A. E. H.

TABLES OF FOOD VALUES. By Alice V. Bradley, B.S., Supervisor and Instructor of Nutrition and Health Education, State Teachers College, Santa Barbara, California. The Manual Arts Press, Peoria, Illinois. Price \$2.00.

This is a book consisting of fifty tables of raw and cooked foods and of many common recipes. It gives the protein, fat, carbohydrate, mineral and vitamin values of average helpings. It would be useful to a dietitian in estimating a very complex diet. With the simple diets employed in clinical dietetics it does not have so much value. It is regrettable that the chloride content of foods is not given along with the calcium and iron. In the main, the work has been carefully and painstakingly done and it is a reliable reference volume.

W. H. O.

THE DISPLACEMENT METHOD OF SINUS DIAGNOSIS AND TREATMENT. A Practical Guide to the Use of Radiopaques in the Nasal Sinuses, with 146 illustrations and a chart. By Arthur W. Proetz, A.B., M.D., Assistant Professor of Clinical Otolaryngology in the Washington University School of Medicine, etc. St. Louis: Annals Publishing Company. 1931. Price \$6.00.

This monograph is a very comprehensive treatise on the displacement method of sinus diagnosis and treatment and a practical guide to the use of radiopaques in the nasal sinuses. The work not only includes much valuable original research but represents a distinct advance in our methods of diagnosis and treatment of the sinuses. After a brief introductory chapter, the author proceeds with the consideration of the principles and practice of displace

ment, and then follows with the description, apparatus employed, the physics and physiology of the sinuses, anatomic considerations and the pathology and theory of treatment. The various types of radiopaques and the method of their introduction is considered in detail. Several chapters are devoted to roentgenology and the practicability of partial filling of the sinuses. Studies in topography, cell identification, film interpretation and a consideration of the sources of error are clearly described. The last two chapters are devoted to the use of the displacement method in children and observations of allergic changes in the sinuses by means of radiopaques. The author is to be highly congratulated for this original and important contribution to rhinology.

F. K. H.

APPROVED LABORATORY TECHNIC. Clinical Pathological, Bacteriological, Serological, Biochemical, Histological. Prepared under the Auspices of The American Society of Clinical Pathologists. By John A. Kolmer, M.D., Dr.P.H., D.Sc., LL.D., Professor of Pathology and Bacteriology, Graduate School of Medicine, University of Pennsylvania, etc., and Fred. Boerner, V.M.D., Associate Professor of Bacteriology, Graduate School of Medicine, University of Pennsylvania. Assisted by C. Zent Garber, A.B., M.D., Associate in Pathology, Peking Union Medical College; Formerly Associate Pathologist Henry Ford Hospital, Detroit, et al. With eleven colored plates and three hundred illustrations in the text. New York: D. Appleton and Company. 1931.

This book has been prepared under the auspices of the American Society of Clinical Pathologists and therefore represents the approval of a large number of experts in the fields of pathology, bacteriology, serology and biochemistry. A special effort has been made to clarify even the most simple details of technic without making the book burdensome to the expert. The book is very complete, comprising over 600 pages of text. The illustrations are most generous, there being three hundred as well as eleven color plates. The book is printed on unusually good paper and in large type; both splendid for a manual that is in constant use. We believe this book will come into very active use with laboratorians notwithstanding the numerous other splendid volumes in the same field.

R. L. T.

HANDBOOK OF PHYSIOLOGY. By W. D. Halliburton, M.D., LL.D., F.R.C.P., F.R.S., Emeritus Professor of Physiology, University of London, King's College, and R. J. S. McDowall, M.B., D.Sc., F.R.C.P. (Edin.), Professor of Physiology, University of London, King's College. Nineteenth edition. With numerous illustrations in the text, many of which are colored, and four colored plates. Philadelphia: P. Blakiston's Son & Co. Price \$4.75.

This treatise on physiology is the oldest textbook on this science in the English language. It has run a continuous series of editions and revisions by various authors since its first appearance in 1848. It appeared first under the authorship of Wm. S. Kirkes, of St. Bartholomew's Hospital, but its excellence is due in chief measure to the brilliant lecture notes of Doctor (Sir) James Paget, under whom Kirkes sat as a student. Paget lent every aid to the development of the new textbook. The current edition has been thoroughly revised and re-

written to convert it into lines quite in harmony with modern textbook specialization.

Among numerous features to be praised in the 19th edition is the clear and concise story of the autonomic nervous system in Chapter XI. The circulation of the blood is much more adequately illustrated although one can but regret the overemphasis of Lewis' circus movement theory of fibrillation. The story of the motility of the alimentary canal and its nervous regulation is very satisfactorily told. Many other evidences of the injection of recent experimental data appear, giving on the whole a very usable book both for students and practitioners.

It is with extreme regret one must record the death of the senior author on May 31, 1931. Dr. Halliburton's nineteen revisions extending from 1896 to 1930 transformed the volume from an anatomical physiology to a true textbook of experimental physiology.

C. W. G.

DISEASES OF THE SKIN. By Richard L. Sutton, M.D., Sc.D., LL.D., F.R.S. (Edin.), Professor of Diseases of the Skin, University of Kansas School of Medicine; Assistant Surgeon, United States Navy, retired; etc. With 1290 illustrations, and 11 colored plates. Eighth edition, revised and enlarged. St. Louis: The C. V. Mosby Company. 1931. Price \$12.00.

The fact that this treatise on diseases of the skin is already in its eighth edition attests its popularity among students and practitioners. The book also serves as a dermatological atlas and the bibliography at the end of each chapter is not only thorough but complete and up-to-date.

The chapter on the physiology of the skin has been rewritten, mention being made of Barney's important work on sweat secretion. Sutton is disappointed in the practical application of blood chemistry findings in skin diseases; also in the use of stock vaccines, especially in such diseases as acne. He personally favors autogenous colon bacillus vaccine to produce a foreign protein reaction in such diseases as acne, psoriasis, dermatitis herpetiformis and furunculosis. It is doubtful, however, whether his results are any better than one gets from the proteins of milk or typhoid vaccine.

Some of the newer therapeutic measures used in dermatology are mentioned, such as Grenz rays, bacteriophage, oil of bergamot, ultraviolet light therapy in vitiligo, and bismuth therapy in lupus erythematosus. The chapters on tularemia, cutaneous blastomycosis and granuloma inguinal are exceptionally complete and up-to-date and they are illustrated with excellent photographs. The tropical dermatoses are well handled, as would be expected from a world traveler like Sutton.

Taken as a whole, the book is strongest in photographs and clinical description. Therapeutic detail and the author's personal experiences with the various phases of treatment do not receive the attention they merit. But Dr. Sutton has produced an excellent encyclopedia of dermatological knowledge brought up-to-date.

N. T.

HEALTH IN CHINA

Water, sewerage and food offer the key to the health puzzle in China, declares Charlotte F. Kett, a *Hygieia* author. Chinese families are as a rule too poor to buy any food except that which is sold on the street. The water supply in Chinese cities is deplorably inadequate and the rivers serve as sewers, spreading infection among the vast hordes of people.

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E. J. GOODWIN, M.D., Editor
1023 Missouri Building, St. Louis, Mo.
Telephone, Jefferson 5261.

PUBLICATION { J. C. B. DAVIS, M.D., Chairman
COMMITTEE { G. WILSE ROBINSON, M.D.
M. A. BLISS, M.D.

THE RATIONALE OF TREATMENT IN SOME ACUTE CONJUNCTIVAL INFECTIONS

HARVEY J. HOWARD, M.D.

ST. LOUIS

No one would challenge the statement that as soon as the causative agent of an infection in the human body has disappeared the application of remedies, whether specific or non-specific, employed for the purpose of furthering such a disappearance, should be stopped. The word "furthering" in the above sentence connotes the existence of other factors in the fight against an infection. These other factors are the body defenses without which the remedies alone would generally be impotent. Sometimes, indeed, the treatment instituted not only fails to assist the natural defenses of the tissues but actually inhibits their action.

In acute infection of the conjunctiva it has been my experience and observation that, whether the cause be known or not, we are prone to make the local treatment too severe and to continue it too long. I shall be specific.

The majority of acute conjunctival infections are due either to one of the various types of pneumococci or to the Koch-Weeks bacillus. The first signs of such an infection are observed about 24 hours following the inoculation. For a period of about two days there is a rapid development of the infection, associated with all the symptoms of a localized, acute inflammation. Epithelial-cell scrapings of the inflamed areas, and often smears as well, taken at any time during these two days reveal the presence of the invading organisms in great numbers. But specimens taken on the fourth day and thereafter show, except in rare instances in adults and generally in new-born children, no evidence of the primary invaders. We may find saprophytic bacteria in these later specimens but we must not be misled into believing them to be the causative agents. The differential diagnosis is made when one finds organisms growing on the surface of the epithelial cells scraped from the inflamed con-

junctiva and stained with Giemsa solution. A Gram stain also is sometimes necessary to make identification of the organism complete.

It is somewhat disconcerting to discover that the extension of the infection over the conjunctiva usually proceeds without interruption whether treatment is instituted or not, and that the disappearance of the invading bacteria occurs by the fourth day in treated and untreated cases alike. But, strangely enough, the disappearance of the bacteria on the fourth day is not associated with an improvement in the appearance of the affected eye. In fact, for two days after the bacteria are no longer to be found, the eye often looks worse than it did at any time during the first three days. This is due partly to a continued outpouring of exudates through multitudinous tiny breaks in the mucous membrane, and partly to the activity of the repair process which is so violent that it gives a disrupted aspect to the conjunctiva. Judging from the appearance of the eye alone, one who is unfamiliar with the facts regarding the disappearance of the bacteria would be strongly tempted to give still more intensive treatment at this stage, when actually nothing but a mild cleansing lotion is indicated.

Gonococcal infections of the conjunctiva are steadily becoming rarer, but we still see enough of these cases to keep familiar with the symptoms and the dangers. Fortunately, the use of milk injections or other forms of non-specific protein therapy has removed most of the terrors of this disease. It has certainly taken the emphasis from local treatment, which in many instances probably did more harm than good.

An infection of the conjunctiva due to the gonococcus develops more slowly than does one that is due to the pneumococcus or the Koch-Weeks bacillus, and it does not reach its peak until a week or ten days following the inoculation. During this period the bacteria grow on the epithelial cells in the same manner, but they do not disappear suddenly on the fourth day or so, as do the other two organ-

isms. In fact, gonococci may be found either in smears or in scrapings for several weeks unless a foreign protein in sufficient dosage to induce a high fever be given. The bacteria then quickly disappear. Since the gonococcus always causes an acute inflammation whenever inoculation of the conjunctiva has occurred, it must never be considered other than a parasitic microorganism. Therefore, the finding of Gram-negative diplococci within leukocytes should establish a diagnosis as well as the finding of epithelial cells covered with the organisms.

There are certain deductions regarding treatment which may be drawn from the statements made above:

1. It is doubtful whether our common antiseptic solutions have a bactericidal effect upon the causative agent of an acute conjunctivitis, except during the few hours immediately following the inoculation. Since during the first day there is no evidence of infection such treatment obviously would not be instituted, except in those rare cases where there is definite knowledge of an infection.

2. The use of strong antiseptic solutions during the purulent stage of an acute conjunctivitis also seems to be inadvisable; first, because they have no effect upon the bacteria which have already invaded the cellular layers; second, because they probably interfere with the defensive mechanism of the tissue, and third, because they subject the patient to unnecessary distress. During this stage frequent irrigations with boracic acid or normal saline solution are probably more efficacious than instillations of even mild germicidal solutions.

3. After the bacteria have disappeared—a phenomenon which varies in point of time with the different organisms—only soothing lotions, preferably normal saline solution, should be used to keep the culdesacs clean. One cannot judge from the appearance of an eye whether or not the invading bacteria have disappeared. A knowledge of the type of organism that caused the infection should make it possible to predict the approximate time of its disappearance. Otherwise, frequent bacteriologic examinations will have to be made.

4. The presence of bacteria in scrapings and smears does not necessarily establish the diagnosis unless the organisms are found on epithelial cells in stained specimens.

5. Professional care of cases of acute conjunctivitis is important in order that measures may be taken to prevent extension of the infection to the second eye, should it still be uninvolved, and also to other persons in the household, as well as to watch for corneal complications, which in rare instances do occur.

Washington University School of Medicine.

SODIUM AMYTAL IN THE TREATMENT OF PARESIS

PRELIMINARY REPORT *

RALPH M. FELLOWS, M.D.

GALVESTON, TEXAS

A relatively new drug, sodium amytal (sodium iso-amylethyl barbiturate) was first prepared and used as an anesthetic on dogs by Page and Coryllos¹ in 1926. It was first used as a surgical anesthetic in man by Zervas, McCallum² and their associates in 1929. Bleckwenn³ in 1930 reported its use in various types of psychotic patients with mental excitement and depression. Bancroft and Richter,⁴ later Bancroft and Rutzler,⁵ reported the use of sodium amytal in various types of psychoses. Lang and Paterson⁶ used sodium amytal in making a study of functional psychoses.

In none of these reports is there an instance of the use of this drug in the treatment of general paresis of the type described here. The treatment of such a case with sodium amytal with rather startling results is here reported.

REPORT OF CASE

A salesman, aged 32, single, was admitted to the Menninger Clinic, Oct. 7, 1931. His chief complaints were memory impaired, it took much longer to do the ordinary things about his work than it had formerly, and he was at times confused. He had consulted a physician when these symptoms were first noticed five months before coming to our clinic at which time a diagnosis of paresis was made and confirmed by a four plus blood Wassermann reaction, positive spinal fluid and a paretic gold sol curve. Malaria treatment was begun at that time which proved to be unsatisfactory in that he only had six or seven chills with little or no improvement.

Physical Examination.—This was essentially negative except for emaciation and palpable lymph nodes in posterior cervical, epitrochlear and inguinal spaces.

Neurological Examination.—The pupils reacted sluggishly to light, were widely dilated but equal and regular in outline and the consensual reflex was barely perceptible. There were fine tremors of the muscles about the mouth and the patellar reflex was hyperactive on both sides.

Mental Status.—He would not talk except to answer simple questions in monosyllables, was disoriented for time, place and persons, when asked to sit down would do so after much persuasion but would immediately get up and walk aimlessly about the room, occasionally stumbling over the rug and running into the furniture, and his personal appearance was untidy.

Laboratory Examinations.—These were made in the clinic and gave essentially the same results as laboratory examinations made prior to his admission. (See above.)

November 18, six weeks after entering the hospital he presented the following picture: He had apparently deteriorated rather rapidly, would no longer speak at all, stood by the window, naked, gazing out

* From the Menninger Clinic, Topeka, Kansas.

with an expressionless face for hours at a time. In fact if permitted he would remain so all day without moving except to handle his penis as if attempting to masturbate. His ankles and legs up to the knees became cyanotic and edematous from standing constantly in one position. He defecated and urinated upon the floor without moving or changing his position. He refused all nourishment; when fluids were put into his mouth he would not swallow them but let the fluid run out of his mouth, necessitating daily tube feedings. This was done routinely three times a day for six weeks. Routine treatment including diathermy, tryparsamide and bismuth, was instituted.

On November 19 after his condition had been as described for about a month he was given nine grains of sodium amytal in a tube feeding at 9:30 in the morning. He slept for about 45 minutes and upon awaking seemed remarkably changed. For the first time in approximately five weeks he spoke intelligibly, asking for something to eat. He ate some apples, some grapes and bananas, unassisted, which he was able to select from a basket which stood near his bedside and identified them by name. While eating he sat in a rocking chair in an easy and natural position. He inquired of the nurse about his friends and instructed her to call and ask them to visit him. He requested a bath which he was able to take without much assistance. He asked for his clothing which he was able to put on by himself. He then called for newspapers and magazines, asked for his glasses, put them on and read the papers, commenting occasionally upon what he was reading. He read aloud upon request. Given a pencil and paper he wrote his name and correct address as well as names of relatives and friends. He smoked several cigarettes. A tray was brought to him at noon and he got up out of his chair and moved a bedside table over near his chair and proceeded to eat his meal unassisted.

This condition lasted about three hours and then he gradually relapsed into the stuporous, inaccessible condition described above, characteristic of the period before the administration of sodium amytal.

The next day, November 20, he still stood motionless, naked, gazing out of the window. His face was expressionless and he showed no sign of recognition on being spoken to. He would not answer the questions asked the day before and would not even hold a pencil in his hand when it was placed there. Again he had to be tube fed.

At 9:30 o'clock in the morning he was given sodium amytal and again he cleared up precisely as in the first instance only to relapse again after three to four hours into his usual stuporous condition.

This phenomenon of mental clarification with or without sleep with subsequent relapse into the stuporous, inaccessible condition after the administration of sodium amytal was observed time after time almost daily for six weeks. Usually, the administration of the drug would be followed promptly (in thirty minutes) by sleep which lasted from thirty minutes to four hours, but occasionally the patient cleared up from his usual stuporous condition without going to sleep. It began to be noticed that he would not sleep at all at night after a drug was given to him but he would be mildly excited and talkative. He would, however, sleep all night if the drug was not given him at

bedtime. This was the first indication of an improvement that has been progressive. At the present time, three months after his admission, he is able to sleep at night, is up all day, dressed, cleanly in his habits, neat in his appearance and goes for car rides daily with his relatives. He has had no sodium amytal for a period of about three weeks.

All the sodium amytal was administered orally and the dosage was usually nine grains for this patient, whose average weight was 140 pounds.

Although he was tube fed regularly three times a day he not only did not gain but continued to lose weight until he began to eat voluntarily after sodium amytal had been given.

This case is reported because in a search through the literature no mention can be found regarding the use of sodium amytal in the treatment of a case of general paresis of this type. It is considered to be of more than passing interest that a patient with a psychosis which is considered to be due to an organic disease of the brain, who is in a stuporous condition, completely out of touch with his surroundings in that he will not talk, pays no attention to his person and takes no nourishment, can immediately (in thirty minutes) simply by the administration of a drug be brought from this condition to one in which he is alert and in touch with his surroundings in that he will talk, pay attention to his surroundings and take nourishment. Not only could this change in his condition be brought about by the use of sodium amytal but after its use was instituted he began to show for the first time an improvement which has progressed to his present condition described above.

It is true that he was being given tryparsamide and bismuth as well as weekly diathermy treatments during this period and it is also true that not infrequently patients with paresis have remissions in which they improve, yet it is interesting to speculate upon what influence sodium amytal could have had in his improvement. It is more interesting, however, to speculate upon the action of a drug which acts paradoxically at certain times as a stimulant and at other times as a sedative in the same patient, the more so because the patient upon whom these effects were observed suffered from an organic brain disease of an inflammatory and degenerative nature.

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ARTHRITIS

ETIOLOGICAL CLASSIFICATION AND POINTS IN DIFFERENTIAL DIAGNOSIS *

DANIEL E. KAUFFMAN, M.D.

ST. LOUIS

Arthritis knows no geographical boundaries. All nations and all races are susceptible. It is the only disease of which we have definite proof that it existed before the era of man. In some countries it is much more prevalent than in others especially in Sweden, England, Holland, Germany, France and the United States. In Sweden arthritis comes first in the list of disabling diseases causing permanent disability, if we exclude the cardiovascular and senile conditions. It accounts for 9.1 per cent of all cases as against 5.8 per cent for tuberculosis. In England, including both the articular and nonarticular cases such as lumbago, one sixth of the total industrial disability is caused by arthritis. In Germany, diseases of the muscles and joints compared to all kinds of tuberculosis affections show 8.2 times as many cases, 3.4 times as many days of illness, and 1.4 times as many days lost from work. At Aachen there is a large institute for the treatment of arthritis alone which is in direct connection with the medical faculty of the University of Dusseldorf.

Taking into consideration that the medical profession has known of arthritis from the earliest times, its universal prevalence and the large number of cases found everywhere, it is difficult to conceive why so little is really known about the disease. The general apathy of the medical profession toward this great problem is beginning to lessen, although many physicians still regard arthritis as an incurable condition, and a pessimistic prognosis that nothing can be done for the patient is too frequently given to the already discouraged sufferer. As Pemberton says: "A fatalistic attitude of hopelessness cannot engender much enthusiasm on the part of the profession to study the problem, and indeed only begets further indifference."

The nomenclature and classifications of arthritis have added materially to the difficulty of studying this condition. The terms atrophic

and hypertrophic were officially chosen by the American Committee on Rheumatism to designate the two great classes of arthritis. Nichols and Richardson do not believe that these two pathological types correspond to two definite etiological factors. In the words of these two writers: "These two types do not correspond to definite diseases, but each type represents reaction of the joint tissues to a considerable variety of causes." In other words, the terms atrophic and hypertrophic have to do with the end-result and have no bearing on the etiology.

The classification offered here is given merely with the thought that it will provide a working basis for all classes of arthritis. There are many different classifications in the literature but this one is based on the etiology.

ETIOLOGICAL CLASSIFICATION

- I. Acute Rheumatic Fever
- II. Metabolic Disturbances
 - A. Gout
 - B. Endocrine
 1. Menopausal
 2. Obesity
 3. Thyrotoxicosis
- III. Trauma
 - A. Acute
 - B. Chronic
 1. (Obesity)
 2. Pronation of feet
 3. Static conditions
- IV. Infections
 - A. Specific
 1. Gonorrhea
 - a. Acute
 - b. Chronic
 2. Tuberculosis
 3. Syphilis
 - a. Secondary stage
 - b. Tertiary stage
 - c. Charcot joint
 4. Typhoid
 5. Pneumococcus
 6. Bacillary dysentery
 - B. Nonspecific
 - a. Acute
 - b. Chronic
 1. Teeth
 2. Tonsils
 3. Colon
 4. Gallbladder
 5. Pelvic organs
- V. Arthritis of Unknown Etiology
 - A. Still's Disease
 - B. Heberden's Nodes

Acute Rheumatic Fever.—This condition affects mainly children and young adults, 80 per cent occurring before the thirtieth year. The disease itself is not often fatal but the cardiac complications have a high mortality rate. The incubation period is not known but the attack frequently follows an upper respiratory infection. The large joints are more likely to be involved. The joints become red, swollen and

* Read before the St. Louis County Medical Society, April 8, 1931.

very tender. Several joints are usually attacked, one after another in rapid succession. The joints return to normal when the disease terminates. There is no residual involvement.

Gout.—Gout is not a true arthritis. The arthritic changes develop following the deposits of the urates in and around the joints. It is a disease almost peculiar to the male sex, women very rarely being attacked. The greatest number of cases are in the fourth and fifth decades. There is a strong hereditary influence. In the first few attacks there is a complete return to normal in the involved joint. After repeated attacks there is a slight residual which is added to with each new attack. The toes are the usual site of involvement but they are by no means the only site of attacks. Whenever the patient gives a history of repeated attacks of a severely painful swollen joint which subsides after a restriction of diet and leaves no residual involvement, we must be suspicious of gout.

Menopausal Arthritis.—This is a chronic polyarthritis of women who are going through or have just passed through the menopause. At the Aachen clinic in Germany the average age was 50. Most women give a history of the involvement beginning in the first eighteen months of the climacteric. The disease is insidious and not migratory. The knees, fingers and spinal joints are the most frequently attacked. Roentgen ray examination shows a distinct lippling. The hypertrophied area is dense. The joint cartilage is irregular. The condition is further characterized by Heberden's nodes. These nodes become very large and cause marked deformity of the terminal phalanges.

Obesity.—This is due to a deficiency in the internal secretion of the pituitary, thyroid or gonads. The pain in this type is due to the increase in weight, causing trauma to the joints. It is in no way the direct result of a deficiency of the glands just mentioned. In other words, it is the obesity and not the glandular disturbance that causes the arthritis. Practically all of these cases are of the hypertrophic type, the knee being the joint usually attacked.

Thyrotoxicosis.—Arthritis sometimes accompanies this condition. What relation the two possess is difficult to understand. In practically all cases of arthritis there is a low basal metabolic rate, but when arthritis is present with a toxic goiter the metabolic rate is naturally high. Almost all such cases clear up following operation on the thyroid.

Traumatic.—Under this heading are classed those conditions which continuously insult the joints such as obesity, pronation of feet and static conditions.

Gonococcal Arthritis.—The symptoms vary with the severity of the involvement. The onset is generally sudden; there is a moderate fever and usually chills. The joints most commonly attacked are those of the lower extremities. The spine is practically never affected. It may be polyarticular at the onset but later one joint usually is involved. A positive diagnosis is much easier to make in the male. In the female vaginal cultures frequently have to be resorted to before we can be sure that we are dealing with a gonococcal infection.

Tuberculous Arthritis.—This is a disease of childhood and early adult life. The cardinal symptoms are the same as for any acute infectious arthritis; namely, pain, swelling and stiffness. Limitation of motion is an important sign as is also muscle spasm. There is marked atrophy of the muscles, both above and below the joint. Generally, there is an effusion into the joint at some time during the course of the disease. Aspiration and guinea pig inoculation are the final proof of the diagnosis.

Syphilitic Arthritis.—Accompanying the secondary stage is usually an acute mild polyarthritis. The other findings of secondary syphilis are present. There is tenderness, limitation of movement, moderate swelling and generally an effusion into the joint. Tertiary syphilis comes late in the disease. It is characterized by a gummatous thickening of the synovia and capsule, effusion, considerable swelling and no redness. The knee is the joint most commonly attacked. Clinically, the arthritic joint of tertiary syphilis resembles the old chronic tuberculous joint. In syphilis there is less destruction of the bone and cartilage. Tuberculosis usually affects the young and syphilis the old. Tertiary involvement is nearly always mono-articular. Hydrops of the knee with periostitis adjacent to the joint suggests syphilis if there is no history of trauma.

Charcot Joint.—This is a trophoneurosis and not an inflammation of the joint. It is seen in tabes and in syringomyelia. Campbell's studies show that it occurs in from 3 to 4 per cent of tabetics and in 10 to 50 per cent of patients who have syringomyelia. In the former cases the lower extremities are involved in three fourths of the cases and in the latter disease the joints of the upper extremities in the same proportion. In tabes it is usually mono-articular and in syringomyelia it is generally polyarticular. The patient having this type of a joint does not suffer much distress and often continues to walk without discomfort. The joint is greatly enlarged, there is usually a large amount of fluid, the skin is white and shiny and the veins stand out prominently. Considerable crepitus is palpated on

movement of the joint. The diagnosis is fairly easy because of the existing nervous disease. Osteoarthritis of the mono-articular type is the condition most frequently confused with the Charcot joint. The former condition most frequently attacks the hips, practically never the knee. The usual findings of syphilis are present in tabes. In cases of syringomyelia there are the symptoms of cord destruction such as loss of temperature and pain sense, atrophy of the small muscles of the hand and spastic paraplegia.

Still's Disease.—This is a polyarthritis of young children. The findings are those of a chronic infectious arthritis. There is marked atrophy of the muscles and in the later stages ankylosis and deformity occur. There is considerable rarefaction of the bone but lipping and spur formation of the articular surfaces practically never occur. Accompanying this joint condition there is a more or less generalized hyperplasia of the lymph nodes, liver and spleen. The onset of this disease is usually sudden with chills, fever and sweating. At first the large joints are involved, especially the knees; later other joints become attacked. This disease usually runs a progressive course.

737 Missouri Theater Building.

POSTNATAL CARE*

G. D. ROYSTON, M.D.

ST. LOUIS

The puerperium or postnatal period is the time following the completion of labor during which there disappears those changes which arose as a result of the pregnancy and labor. It is practically never complete as some evidence of labor may always be found. However, there is a gradual return toward the normal, the process extending over six to twelve weeks following delivery.

The term "involution" is applied to the retrogressive changes of the genitalia. Many of those conditions with large boggy uteri formerly diagnosed as chronic metritis have been shown by Schwarz and McNalley¹ to be usually instances of incomplete involution or subinvolution, while metritis is comparatively rare.

Almost two-thirds of all diseases peculiar to women follow pregnancy and labor, while thousands of women die every year from the same cause. Probably the most instructive article of practical value to the practitioner on the details of postpartum care is the contri-

bution of Polak.² Much of what I have to say is the result of his influence.

The obstetrician should deliver the woman of a living child with a minimum of injury to her general system and to her local soft parts; he must assume the responsibility that is his in leaving the normal woman in such physical and mental condition that she shall be as well as and often better than she was before coming under his care. In order to obtain such a result it is necessary that he endeavor by proper prenatal care to prevent toxemias or keep them within safe limits, to guard against organic lesions involving the heart, kidneys, etc., which may be aggravated by pregnancy, and to improve the woman's physical state so that she may cope properly with the strain of labor. He is responsible for a properly managed labor during which he has minimized pain and suffering by the judicious use of some of the many present day analgesics so that she shall not be a nervous wreck afterward. He should control hemorrhage, since the loss of every drop of blood makes the patient less resistant to infection and retards her convalescence in proportion to the amount of hemorrhage during labor. Both protracted, painful labors during which little food or fluid is retained and difficult deliveries predispose to surgical shock which may prove fatal unless properly and promptly treated. All injuries should be repaired as soon as possible, under narcosis, in a good light, with proper exposure of the entire extent of the injury.

All means must be taken to favor involution, the prevention or correction of uterine displacements, in which respect attention is directed to the importance of improving the tone of the abdominal musculature. The obstetrician must also be sufficiently trained in the care of the baby to give it a proper start and thereby add to the mother's peace of mind. Too often it is difficult for the well-trained, scientific obstetrician to bear in mind at this time that he must treat the patient as well as the condition—that he must practice the art as well as the science of medicine.

The portion of this symposium assigned to me deals with postpartum care. There are so

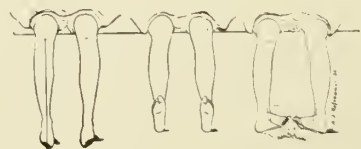


Fig. 1. Exercises for prevention or cure of weak feet, usually manifested by sacro-iliac backache (faulty posture). a. Position of foot in normal relation to patella. b. Feet are sharply flexed. c. The sharply dorsiflexed feet are fully extended and adducted and then returned to their original starting point.

*Read before the Southwestern Clinical Conference, Kansas City, Mo., October 9, 1930.

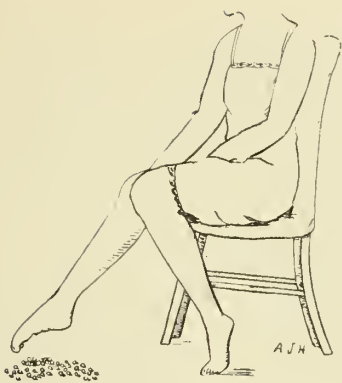


Fig. 2. Three dozen cherry-size marbles are picked up singly with the bare toes.

many conditions that may arise requiring treatment during the puerperium that time will permit me to deal only with the things most commonly encountered. Since the puerperium begins with the birth of the child, I shall start at that point. Immediately after the baby is born the anesthetic is stopped, a sterile gauze compress is held tightly against any perineal injury to control bleeding, spurting vessels are clamped and 1 c.c. of some pituitary preparation is injected into the deltoid muscle. A clamp or ligature around the cord flush with the vulva usually will show by the lengthening cord that placental detachment has occurred. This lengthening, plus changes in the size, shape and consistency of the uterus, or if active bleeding from the birth canal occurs, is the time to express the placenta, preferably by Credé's method. The very careful third-stage supervision and management as practiced by Calkins enables him to express the placenta immediately after spontaneous detachment with a lower loss of blood than any other investigator has been able to report. He emphasizes the importance of not attempting to hasten spontaneous placental detachment by manipulation.



Fig. 3. Foot holding marble between toes is crossed and rotated (inverted) sufficiently to make the sole visible to the performer.

Three things facilitate satisfactory expression of the placenta: (1) An empty bladder; (2) uterus in midline of body; (3) spontaneous uterine contraction. Following placental delivery an ampule of ergonovine is injected into the deltoid muscle. If the uterus is not firmly contracted the lower uterine segment is compressed against the sacral promontory, shutting off the uterine circulation, while the other hand rubs the fundus into contraction.

Active bleeding from the birth canal immediately after delivery of the child, with the uterus firmly contracted, indicates injury, usually of the cervix, and demands inspection and repair of the latter under proper aseptic precautions after placental expulsion. It is my custom to repair perineal injuries while waiting for spontaneous detachment of the placenta. Plain catgut No. 1, preferably a continuous suture, has been most satisfactory in my hands.



Fig. 4. One hand compresses lower uterine segment against the promontory shutting off uterine circulation, while the other hand rubs the uterus into contraction (postpartum hemorrhage from atony). (Polak.)

Plass in 1916 reported that two to five times as many repairs failed to heal when hospital cleansing and care were given as when the repairs had little if any care beyond the change of pads by the patient herself. It is illogical to use pitcher douches on a clean primary repair wound which is usually sealed in a few hours, and douches and all vulval pads are discouraged. The latter simply act as wet packs on what should be a clean sealed wound. Most repairs that break down do so because of sutures too numerous or too tightly tied, interfering with the blood supply. The resultant edema always makes the sutures tighter two or three days later than at the time of repair.

The last thing to do before leaving the patient is to grasp the uterus and expel clots; her knees are kept tied loosely together for a few hours in order that any excessive bleeding will appear upon the top sheet and be more quickly

discovered. An icebag over the fundus seems to stimulate uterine contraction and retraction. The blood pressure is taken every ten to fifteen minutes for one to two hours after the patient is returned to bed. Any tendency to atony or increased bleeding is met by giving three to five minims of pituitary extract intravenously and fluid extract of ergot, drams 1, by mouth every three to four hours for four to six doses. (Otherwise no ergot is given after the initial dose of ernutin as the routine use of ergot seems to add to the discomfort of "after-pains," although favoring involution in some cases.)

As soon as the mother is well out of the anesthetic the head of the bed is elevated about eighteen inches and she is placed in the Fowler position for the first forty-eight hours after delivery, unless she has suffered from hemorrhage or shock. If either hemorrhage or shock is noticeably present the patient is given 1000 to 1500 c.c. of Ringer's solution or normal saline solution subcutaneously. If the condition appears more urgent, 500 to 1000 c.c. of glucose, 10 to 20 per cent, is given intravenously in addition. It is felt that the introduction of this rapid means of increasing volume in the circulation is too often neglected. In more severe cases blood transfusion of 500 to 800 c.c. of citrated blood should be given.

Diet.—Soft-solid diet is given during the first twenty-four hours following delivery, and regular diet as desired by the patient the next day after defecation. I have never observed the infant made ill by articles in the mother's diet unless they had first disagreed with the mother.

Bowels.—If no suture involves either sphincter or rectum twenty-four hours after delivery the bowels are moved by an enema (plain water or magnesium sulphate 1 to 2 tablespoonfuls per quart). Thereafter, a diet containing much fruit, leafy vegetables, etc., with mineral oil or agar-agar suffices for a daily evacuation. Various cathartics, opium, etc., are discouraged as they may be excreted in the milk and so affect the child.

Marked urinary frequency suggests a cystitis or incomplete emptying of the bladder. Rose and Rollins⁶ have shown that a prolonged second stage of labor may produce a neurogenic bladder paralysis with marked urinary retention. In such event they recommend the use of a retention catheter for the prevention of pyelonephritis. The cystitis frequently associated with urinary retention is treated with such urinary antiseptics as hexamethylenetetramine in bacillus infections and pyridium in coccus infections. Catheterization is continued

until no more than 50 c.c. is obtainable immediately after voiding.

I fully agree with Polak in the belief that postural drainage and a well retracted uterus offer the greatest barriers to infection. Pain, bleeding and discharge often persist for years after delivery.

In attempting to obtain satisfactory results in obstetrics, I wish to call to your attention the following points:

First.—The avoidance of infection requires not only scrupulous surgical cleanliness during labor, the use of sterile rubber gloves, the practice of external palpation and rectal examinations, with vaginal examinations limited in frequency; but, since the work of Schottmuel-ler,³ in 1910, and confirmed by Schwarz and Dieckmann⁴ and Brown,⁵ in the Washington University School of Medicine, it has been found that a considerable number of infections are due to the anaerobic organism at this unfortunate time. Our hospital morbidity has been reduced to about 30 per cent of its former rate since we began to give every ward patient a vaginal instillation of 5 to 10 c.c. of M. G. I. solution at the onset of labor and preceding all intravaginal manipulations. We use this formula: Mercurochrome 3 per cent .15, iodine .03 per cent .05 ($\frac{1}{2}$ strength U. S. P. tincture), in glycerine 500.

The control of blood loss is important as the anemic woman whose resistance is lowered is very susceptible to infection and shock. Every rise in temperature after delivery calls for an examination of the breasts, perineum and a centrifuged sediment of uncontaminated urine. Should this fail to reveal the cause of persistent fever the following examination is advised:

1. Complete physical examination, with particular reference to the throat and respiratory tract.
2. Breasts.
3. Abdomen for pain and tenderness on pressure over the kidneys, appendix or gall-bladder regions.
4. Perineum for hematoma, a stitch abscess or puerperal ulcer.
5. Catheterized urinalysis for pus and bacteria and also for a urinary culture.
6. A rectal examination to detect an overlooked sponge (used to dam back blood while repairing lacerations).
7. With a sterile bivalve speculum, unfold and inspect vaginal and cervical mucosa; the latter is an exact reproduction of the endometrium.
8. Make bacteriological smears and cultures for both aerobic and anaerobic organisms from

within the uterine cavity. Use a Little's tube for the culture.

9. Bimanual examination of vagina, uterus, tubes, ovaries and pelvic connective tissue; force one finger through cervix and palpate uterine cavity to ascertain if any retained tissue or submucous myoma may be present.

10. Complete blood examination, including cultures (aerobic and anaerobic), red and white cell count, hemoglobin estimate, Schilling differential leukocyte count and daily sedimentation time; look for malaria; Widal reaction for typhoid and a Wassermann for syphilis.

A rapid pulse during the puerperium should always be considered important until proved otherwise. It may denote infection, hemorrhage, the anemia resulting from hemorrhage, or some organic disturbance.

Second.—Minimize the trauma of labor by "watchful waiting"; do not try to hasten labor until after the head appears at the vulva, unless for strict indications. In no instance is delivery permissible until the cervix is fully dilated or, less often, dilatable. Analgesia with a minimum of opium will permit more time and less shock to the woman in labor. If in doubt about whether the time for interference is indicated or not it is usually safer not to interfere at that time. During labor in the primiparous woman in cases of malposition of the child, including breech presentations, large infants, contracted pelvic outlet, etc., a perineal incision is often more satisfactory to repair and gives better results than the protracted stretching and laceration.

Third.—Limit blood loss by not giving too much general narcosis, nor over too long a period of time; compress any bleeding perineal injuries until the latter are repaired; clamp or ligate the cord flush with the vulva as a guide to determine when placental separation has taken place, and only when detachment has occurred spontaneously or hemorrhage appears should the placenta be expressed, since premature manipulation of the uterus to hasten detachment interferes with that retraction of the uterine musculature which normally obliterates the placental sinuses. Pituitary extract, 1 c.c. intramuscularly, and erlutin, one ampule (10 m.) intramuscularly, usually keep the uterus well contracted after a properly managed third stage. I wish to emphasize the importance of allowing placental separation to occur without interference or attempts to hasten the process and then immediate expulsion will limit further blood loss.

Fourth.—All birth injuries should be repaired as soon after delivery as the patient's condition will permit. Plain catgut No. 1 often

placed in two or three layers of interrupted, though preferably continuous, sutures, guided with one finger encased in two sterile gloves in the rectum will insure deep sutures uniting muscle and fascia and not penetrating the rectal wall. This method of using two gloves was first suggested to me by Dr. B. G. Hamilton of Kansas City.⁸ It is advisable to use the fewest sutures that will give coaptation without constriction. After the deeper layer of sutures has been placed the outer glove is removed and the operator proceeds with little loss of time. Ether or gas is the anesthetic of my choice at this time although Gellhorn has accomplished much under local anesthesia. Any shock or marked blood loss calls for immediate measures to replace the blood volume, either during or before beginning any repair.

Fifth.—Involution is favored not only by postural drainage and absence of infection but also by breast feeding, which presupposes such prenatal and postnatal care as will enable the breasts to withstand the wear and tear of nursing in this day of tight brassieres, malformed and inverted nipples, etc. With this idea in view, it is my custom to begin the care of the breasts and nipples during the first three months of pregnancy; they are washed once or twice daily with soap and water, using a light brush or coarse wash cloth followed by alcohol; the skin covering the breasts is stretched in opposite directions with the finger tips, lubricated with lanolin and cold cream in equal parts; the nipples are pulled out gently at this time. Heavy, pendulous breasts are supported by a light-weight, porous brassiere fitted snugly beneath the breasts.

Following delivery the nipples are cleansed with sterile water after nursing and lanolin ointment or mineral oil is applied to the nipples once daily after the last evening feeding. The child is to be nursed on one breast for no longer than fifteen minutes at one time, since protracted nursing periods may predispose to cracked nipples and consequent mastitis. If fifteen minutes of nursing on one breast fails to satisfy the child it may be allowed to nurse the other breast for an additional five minutes. Should nursing both breasts as directed fail to supply sufficient food for the baby, one ounce of a supplemental feeding of whole lactic acid milk with the addition of 8 or 9 per cent of Blue Label Karo syrup after each feeding will usually supply the deficit. Whole lactic acid milk is easily made by adding 50 drops of C. P. (70 per cent) lactic acid to one pint of whole sweet milk, dropping slowly and stirring briskly. It has a higher caloric value and is more readily digested than sweet milk mixtures.

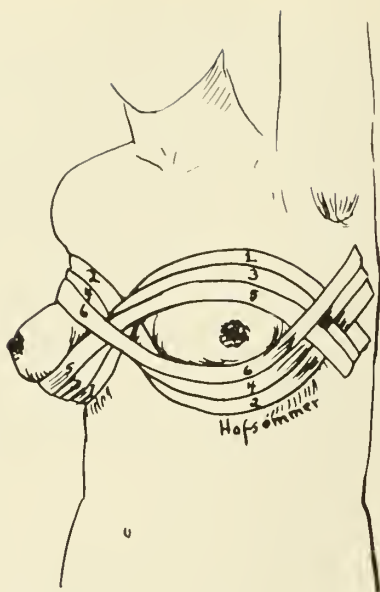


Fig. 5. Zinc oxide plaster strapping must compress the periphery while leaving the excretory channels unobstructed in order to permit automatic free drainage of milk thereby relieving tension.

Should a sweet milk formula be preferred, use equal parts of whole sweet milk and sterile water, plus 5 per cent cane sugar or Blue Label Karo syrup, boil five minutes. Should weaning become necessary, the treatment is similar to that employed for engorgement.

Engorgement of the breasts is relieved almost immediately with a hypodermic of one-fourth grain of morphia and Polak's method of strapping with zinc oxide plaster for from twenty-four to seventy-two hours, taking care to compress the periphery of the breasts and leave the nipple and surrounding areola free to permit automatic free leakage of milk to relieve tension. At times a saline purge and ice caps locally are helpful. No breast pump, stripping or massaging, or nipple shield is permitted. Results are better since they have been discarded. Breast binders and gauze coverings for the nipples have been less satisfactory in my hands than the simple exposure of breasts and nipples to the air, although certain heavy,

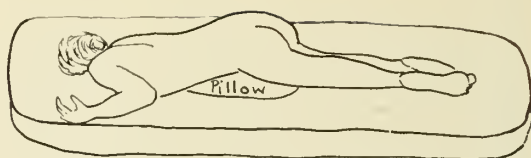


Fig. 6. Patient has pelvic region elevated by pillow while practicing deep breathing for 20 to 30 minutes several times daily from the third day after delivery.

pendulous breasts are more comfortable when supported. The child is never permitted to nurse a tender nipple until absolute rest of the latter has been followed by absence of tenderness for twenty-four hours. A beginning mastitis can usually be aborted by absolute bed-rest and immobilization of the breast with no local manipulation of any kind. Ice cap locally and a saline purge add to the patient's comfort. Breast nursing is permitted to relieve engorgement if the nipples are not tender.

Sixth.—The employment of posture to favor uterine and vaginal drainage is begun as soon as the patient is fully recovered from the anesthetic, when the head of the bed is elevated eighteen inches and she is placed in the Fowler position for forty-eight hours. During this time she is encouraged to turn over and lie upon her abdomen for from twenty to thirty minutes. Beginning from the third day after delivery the patient is advised to change her position in bed frequently and also to lie on her abdomen with two pillows beneath her pelvis for thirty minutes while she practices deep breathing exercises. This can be done earlier and more comfortably than the knee-chest posture, which is recommended as soon as the lochia rubra has disappeared. The patient should remain in bed, with frequent changes in posture, exercises, etc., until the uterus becomes a pelvic organ, usually at the end of ten to twelve days. Never insist upon a patient getting out of bed until she herself feels so inclined, regardless of the time involved. Pulmonary embolism, hemorrhage and thrombophlebitis have all followed my failure to heed this warning.

Seventh.—Reestablishment of intra-abdom-

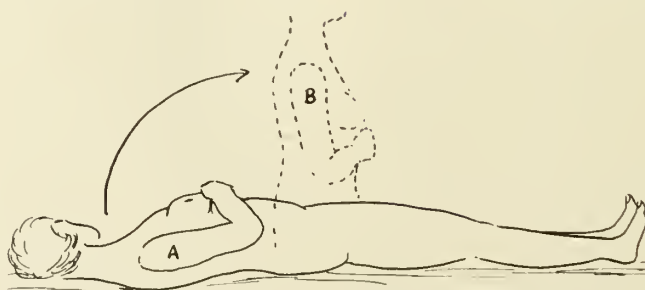


Fig. 7. Trunk-raising exercises to strengthen the abdominal muscles. Begun on tenth day.

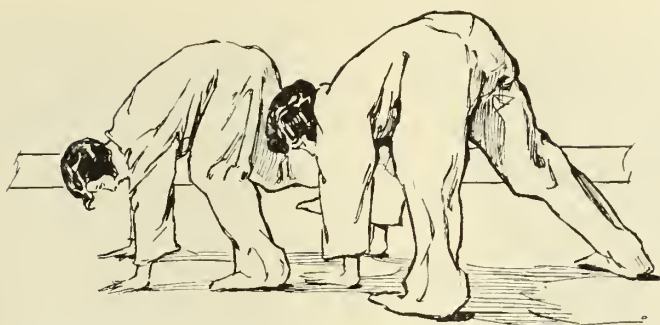


Fig. 8. Polak's "monkey trot" to empty venous pelvic engorgement. Practiced from 3 to 5 minutes morning and afternoon after red lochia is no longer present.

inal pressure and muscular tone of the abdomen by exercises is recommended after the tenth day if perineal soreness has disappeared.

Eighth.—Empty venous pelvic engorgement. Polak's method of having the patient do the "monkey trot" for five minutes and the "mule kick" a dozen times with each leg, morning and evening after there is no longer any red lochia present, has reduced the percentage of retroverted or retrodisposed uteri from 32 per cent to between 5 and 10 per cent in our private patients, and markedly reduced the number of postpartum women requiring pessary treatment. The congenital retrodisposed uterus with the short anterior vaginal wall causes few if any symptoms and usually reverts to the position originally occupied prior to pregnancy.

Ninth.—Granular endocervicitis, so commonly present after labor, is treated with a superficial application of the electric cautery knife by circular searing of the everted mucosa toward the end of the puerperium. Should this fail to relieve the discharge, or in more marked cases, four crucial incisions with the cautery knife are recommended. In selected cases, surgical diathermy (fulguration) is preferable in the absence of eversion. In cases with small to moderate sized stellate tears producing eversion of the cervical canal, deep

charring (carbonization) cauterization with the Collin's olive tip cauteries two or three months after labor will produce a cone-shaped slough with resultant rolling-in and closure of the cervical canal. This will often give a better result than the Sturmdorf operation and repeated personal experiences with it have revealed no instance of dystocia in subsequent labors. Certain cervixes require repair operations, one of the most satisfactory being the Sturmdorf tracheloplasty, while in women near the menopause cervical amputation may be indicated. Of course, sexual intercourse should be prohibited until the cervix is healed, usually about four weeks after such a cauterization.

Tenth.—Correct displacements, etc., by "monkey trot," "mule kick," and knee-chest posture; five pounds of mercury in a rubber bag inserted in the vagina with the patient in the Trendelenberg position for ten to twenty minutes, followed with bimanual replacement and a properly fitting pessary. The Küstner method of replacement after four weeks is often useful. When a pessary is worn, postural exercises should not be practiced lest they displace the pessary. The latter is worn for from three to six months, during which time a daily cleansing douche is taken and the patient reports for observation whenever conscious of its presence, and at later intervals never less than every four weeks for cleansing and replacement.

Trunk-raising exercises are valuable in restoring the tone of the abdominal walls and the

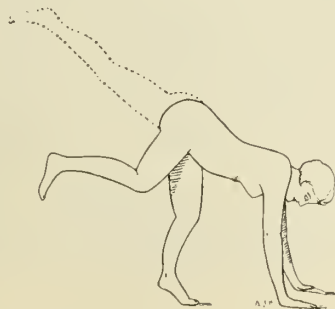


Fig. 9. "Mule kick" in "monkey trot" posture; the flexed leg is raised as high as possible and then forcibly kicked; practiced twelve times with each leg morning and afternoon after red lochia is no longer present.



Fig. 10. Knee-chest postures. Hips perpendicular to the knees; latter widely separated to permit entrance of air into vagina. Assumed for 5 minutes morning and afternoon after tenth day. (Polak.)

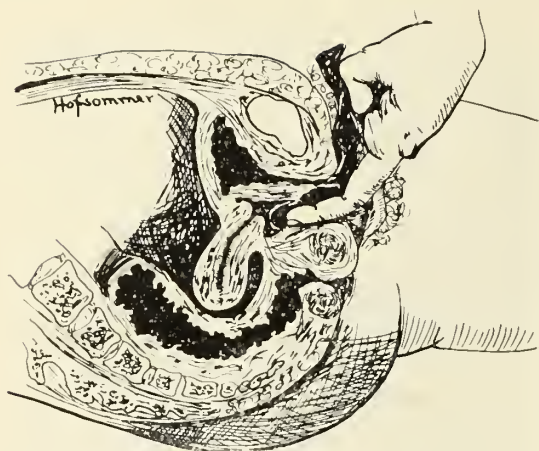


Fig. 11. Insertion in vagina of a soft rubber bag for painless correction of retroversion.

cosmetic effect encourages the patients to practice them. At the end of fifteen or sixteen days the patient is encouraged to take continuous low-pressure, plain hot water douches, lying in the bathtub for twenty minutes, morning and evening. This favors involution and creates a feeling of greater cleanliness and comfort.

Eleventh.—Periodic (postpartal) examinations of mother and child should be made at weekly intervals from the fourth postpartal week until involution is complete and the anatomic relations as nearly perfect as we can hope to have them. During this time it is my custom to offer free use of a mechanical vibrator daily to patients sufficiently interested to employ it. By this means I have observed the reduction of the abdominal circumference of one patient eight inches within six weeks.

Twelfth.—All puerperal women require at least ten hours sleep daily. Constipation is treated with a diet containing abundant green vegetables and fruit and plain enemata; mineral oil or agar-agar are used in more obstinate cases. The patient should not go up or down stairs until the end of three weeks, nor leave her premises earlier than four weeks after delivery, since she is prone to overdo with less restraint. During this time she should not be permitted to become exhausted by entertaining

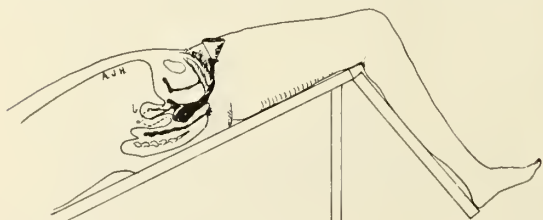


Fig. 12. Five pounds of metallic mercury are poured into the bag with the patient remaining in Trendelenburg position for 10 to 20 minutes.



Fig. 13. Kustner's method of replacing a retroverted uterus. Anterior cervical lip is grasped with a tenaculum and pulled in the vaginal axis down toward the introitus as far as comfort will permit.

visitors, care of the baby, nor domestic activities. A protest is here registered against the customary inadequate supervision bridging the gap between hospital and home without trained nursing care. It is then that the patient feels so weak and helpless. The obstetrician should never fail to see that his patient is made sufficiently familiar with her baby to care for it intelligently.

Thirteenth.—Ample obstetrical supervision is advisable, both of mother and baby, even when the latter is under the care of a pediatrician, since it is impossible for the obstetrician to be freed of all responsibility of the infant.

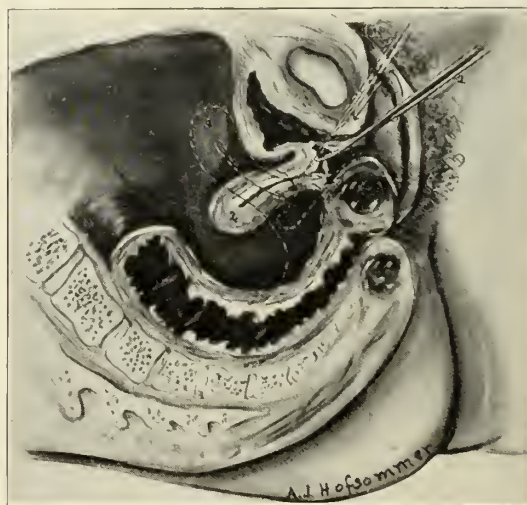


Fig. 14. With the cervix pulled down to the introitus, the handle of the tenaculum is raised upward to the inferior margin of the symphysis and the point of the instrument pushed directly downward and backward and the corpus forward.

Premature babies may usually be saved by following these three essentials: (1) Keep constantly warm (90° F.) from the moment after birth when breathing is established. (2) Do not handle any more than is absolutely necessary. (3) Feed early, breast milk or a suitable formula by bottle dropper or gavage, but see that the child obtains food early—within twenty-four to forty-eight hours after birth.

Fourteenth.—An abdominal binder for the first few days after delivery may be used to relieve the feeling of emptiness and satisfy the whims of the patient. Proper corsetting when getting out of bed is advised. Any comfortable type of corset that can be easily adjusted to fit snugly over the lower abdomen and give uplift may be used. No pinned abdominal binder remains comfortably snug after the patient is out of bed.

Fifteenth.—A final examination is made at the time of discharge and the patient advised as her condition requires. This should be withheld until she is physically and mentally fitted to resume the place that she occupied before the beginning of her pregnancy.

CONCLUSIONS

In conclusion it is my firm belief that the close observance of the fifteen points here outlined will materially lower both maternal morbidity and maternal mortality.

217 Beaumont Medical Building.

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ROLE OF PROGESTIN IN FEMALE REPRODUCTIVE CYCLE

GEORGE VAN S. SMITH and O. WATKINS SMITH, Brookline, Mass. (*Journal A. M. A.*), outline the functions of progestin and its rôle in the normal human menstrual cycle and in pregnancy. The luteinizing hormone which stimulates the production of progestin was administered by them with promising results, to nineteen patients whose chief symptom was abnormal flowing. The authors believe that early clinical and experimental evidence points to another function of progestin; namely, that of inhibiting the production of the follicle hormone and promoting its excretion.

SOME CLINICAL OBSERVATIONS ON THE MEASLES EPIDEMIC OF 1931 IN ST. LOUIS

JOHN ZAHORSKY, M.D.

ST. LOUIS

Perhaps a report on some of the clinical features of an epidemic has some value. At any rate, it is on this ground that this report is offered. In a previous paper¹ my experience during a large epidemic of measles was summarized.

It has become generally recognized that an epidemic of measles does not depend on some special meteorological factor, but mainly on presence of a large number of nonimmunes, mostly children under 8 years of age. To this must be added the commingling of children in the schools and other gatherings in the community.

Further experience has strengthened the conclusions of the previous paper, i. e., that measles is best treated in the home, in a well-ventilated, well-lighted room, and isolated as much as possible from the household.

In the epidemic of 1931, with the assistance of my son, Dr. T. S. Zahorsky, I treated about 300 cases of measles without a death. Perhaps this was just good luck, as the complications were about as numerous as found in the other epidemics reported. The usual treatment was rest in bed for one week in a well ventilated, light room. While the children were given plenty of fluids, no attempt was made to push the fluids. The routine medicine administered was an alkaline mixture of sodium and potassium, to which a small dose of spirit of ethyl nitrite was added. We substituted a benzoate or salicylate medication with alkalis when the physical signs suggested that a secondary infection was impending, as in bronchitis or otitis. Symptomatic treatment for vomiting, diarrhea, excessive cough, hyperpyrexia or insomnia, of course was used as seemed advisable. As a rule, no attempt was made to allay the fever unless the concomitant symptoms (delirium, restlessness, etc.) alarmed the parents.

Although several clinicians have claimed remarkably good results in the treatment of measles with antipyretics, e. g., antipyrine and amidopyrine, and there is no doubt that the symptoms can be controlled by these drugs, yet their ultimate effect on the convalescence, complications, immunization, and general mortality is unknown. *A priori*, I suspect that antipyretics may interfere with the proper re-

1. Zahorsky, John: Some Clinical Observations on the Complications and Treatment of Measles, *J. Missouri M. A.* **21**:35, 1924.

sistance of the body. An occasional dose of any antipyretic is certainly harmless and may subdue excessive coughing and induce sleep.

During this epidemic we have been interested in the prevention and treatment of measles by means of serotherapy. True, we have not, as yet, any confidence in the streptococcus as the etiological agent of measles and, while the experience of Tunncliffe seems very encouraging, the practitioner should remain away from these experimental studies at present. The reduction of the virulence of the morbid agent present in the nasal secretions by aging and by chemicals so that a safe immunizing agent may be discovered, is also a very promising field. The use of any alien serum has its practical drawbacks, as practitioners know very well, so we frown on the production of an antiserum from horses.

The value of convalescent blood has been demonstrated repeatedly for curative but especially for prophylactic purposes, but the effect is that of passive immunization only. In private practice it is difficult to procure convalescent serum as needed. Not many parents will permit their convalescent child to act as donor for another. In one urgent case we obtained convalescent serum from the Isolation Hospital.

The use of immune serum as a prophylactic has become firmly established. We use 5 to 10 c.c. of the mother's blood injected into the gluteal muscles. We have limited its use to infants, since the mortality is greatest at this age. It is probably true, as Knaur states, that the person who has been in the sick room and inhaled the measles poison repeatedly has a higher concentration of antibodies toward the disease. Hence the mother is to be preferred if she has nursed one or more children with measles. A trained nurse or a pediatrician should make a good donor. We have succeeded in preventing measles in the baby by this method with very few exceptions.

Knopfmacher and others have done experimental work to increase antibodies toward measles in the blood of professional donors. It is probable in this way that sufficient immune serum may be provided for more general use in the young infant. Older children, we believe, should be allowed to pass through the disease. It is desirable to produce a permanent immunity at this time. However, the young child under two years of age should be protected. There is one objection to the use of adult blood, that is the transmission of anaphylactic bodies. If the mother is sensitive to pollen or certain foods even a small amount of blood may transmit this sensitiveness to the baby.

In recent years several writers have reported

cases of encephalitis and myelitis following measles. In this epidemic we were on the lookout for the nervous complications. Jenkins² has recently given a short review of the subject with the report of a case. A thorough review of the subject was made by Ford.³ We found several children who exhibited some drowsiness and even stupor on the fourth and fifth day of the disease, a condition not uncommon and to which we paid little attention. One baby, however, required more attention.

REPORT OF CASES

G. B., female, 3 years old, seen on the seventh day of the disease, Jewish parents. The disease was acquired from an older sister. The patient had no medical supervision during the prodromal and eruptive stages. She was much better on the sixth day of the disease but on the date of the first visit her mental attitude changed. She would not sleep and cried all the time, refusing food and water. At times she acted maniacal, screamed with all her might and nothing would please her.

The physical examination showed the rash of measles still present, somewhat pigmented, not hemorrhagic. Nothing was found in the ear, lungs or abdomen. The urine obtained the next day showed a trace of albumin.

No definite change was detected in the nervous system. Eyes, skin and deep reflexes not altered to any degree; no Kernig, no Brudzinski; no spinal puncture was made. The temperature was very slightly elevated.

She was treated by small doses of barbitol and fluids were forcibly administered. She recovered perfectly in about ten days.

Similar cases have been reported.³

An unusual experience in this epidemic was the observation of two cases with manifest spinal cord symptoms. One case was seen in consultation with Dr. R. Brent Murphy, to whom I am indebted for the following clinical notes:

REPORT OF CASE

Case 2. M. A. C., a girl, aged 8, seen on Feb. 3, 1931. Both parents are in good health. There are three other children, a boy aged 15, one girl aged 13, another aged 2. All are in good health, except the girl aged 13 who has had rheumatism and frequent attacks of bronchitis and also has a valvular heart lesion.

M. A. had never before been seriously sick. I saw her at 10 a. m. on Feb. 1. She looked quite sick, had a severe cough, pulse 84, temperature 101. The eruption of measles was fading but could still be seen on the skin of body. She had bronchitis but no pneumonia. Appetite poor and she was very weak.

Feb. 2, at 10 a. m., pulse 96, temperature 100. Condition about the same.

Feb. 3, 10 a. m., pulse 112, temperature 100. Mother had discovered that the child could not use legs and that she wet the bed. Bladder was full. Catheterized her.

2. Jenkins, Paul K.: Measles and the Central Nervous System, *J. Missouri M. A.* 27:65, 1930.

3. Ford, Frank R.: The Nervous Complications of Measles, *Bull. Johns Hopkins Hosp.* 43:140, 1928.

Feb. 4, 9 a. m., pulse 88, temperature 98.6. Much improved. Could raise up both legs. Had not passed water but bladder was not distended. Some appetite.

Feb. 5, pulse 84, temperature 98.6. Could move legs better. Voided urine; cough not so troublesome. Slight rigidity of neck muscles in bringing head forward. Complained of headache.

Feb. 6, improvement continued. The little 2-year-old sister had measles.

Feb. 7. General condition and appetite much better.

Feb. 9. Apparently had good use of legs.

Feb. 13. Able to walk. Knee jerks present and all signs of the disease had gone except that she was generally weak but that was less noticeable every day. She has remained well.

Another convalescent case was seen in my office.

Case 3. D. C., boy aged 6. First seen April 21, 1931. He gave a history of repeated attacks of sore throat and difficult nasal breathing.

On Jan. 17 his tonsils and adenoids were removed by another physician. A high fever began one week later and on Jan. 27 he broke out with measles. On the fourth day of the eruptive stage he became stuporous and remained in that condition for one week. Forcible feeding had to be used. The bladder and rectum lost their normal functions. Catheterization of the bladder was necessary for more than one week. The bowels moved involuntarily. He was completely paralyzed from the waist down. The symptoms gradually improved and three months after the illness he walked very well. He now passes urine and stool normally, but frequently has an ineffective desire to defecate. He is still very nervous and easily fatigued but sleeps fairly well.

The examination revealed nothing abnormal except markedly exaggerated knee jerks; no ankle clonus, no Babinski; eyes normal.

It is an unusual experience to encounter two cases of encephalomyelitis due to measles in one epidemic.

536 North Taylor Avenue.

HOSPITAL PATIENTS WHILE AWAY TIME BY READING BOOKS

To assist the sick man in his adjustment in an abnormal situation is the problem of the hospital librarian and any person caring for a convalescent. Books must be selected to fit the sick person's needs. The patient with a chronic disorder, likely depressed, needs stimulation; the patient who feels he is a well man after an operation needs restraint.

"Books as a Solace for the Sick" is written for *Hygeia* by Isabel DuBois. She maintains that literary values play no part in book selection for the hospital. In fact heavy reading is likely to be depressing because the mental processes may not be as acute as under normal circumstances.

Books of horror and gruesome details have no place in the sick room. Too much of the supernatural or morbid introspection is dangerous.

A few of the less gruesome mystery stories are recommended. Stories of adventure, love and humor are usually desirable. The librarian should note any special interest of a patient. Books of travel, science, bird lore or biography will provide fine enjoyment for some patients.

THE ECONOMIC IMPORTANCE OF EFFICIENT MEDICAL SERVICE TO THE PUBLIC AND THE RAILROAD *

EMMETT P. NORTH, M.D.

ST. LOUIS

During the past year we have experienced one of the most severe financial crises the world has ever known and most certainly the greatest crisis of our time. At the present moment we are still in the trough of the financial sea and although the consensus of opinion is that conditions cannot become much worse we held that same thought a year ago. But, even though we are at the bottom of the trough, we are feeling it all the more as our reserves are fast disappearing or have long since gone. No matter how conservative our personal investments may have been they have felt the withering blasts from the furnace of deflation and all of us have been forced to revamp our customs.

The individual as well as industry must recognize the changing economic status. To preserve the high standards of medicine we must function in the most efficient manner and this presupposes congenial cooperation which is the objective of this organization and its annual meetings. Here we get to know each other and learn something of the problems confronting each individual. The men of the division must understand the problems of the men at the terminal centers, and vice versa. The man who sends a case into the central hospital must understand the problems of the men working in this hospital in order that the highest degree of efficiency and cooperation may be attained. The revenue available for the medical service of the railroad has been tremendously reduced. This you all understand, but the work must be continued on the same high plane that has made the Missouri Pacific Railroad the leader in medical service and has brought about the coordination, cooperation and efficiency of this organization which have made possible the remarkable record to be reported by Mr. Mohler. Here we find to our surprise that more patients have been treated in hospitals with fewer hospital days than during the year 1930 and this is a great public service. Not only is it a distinct service to the individual by conserving his earning power but also to the general public as represented by the enormous investment in railroads.

Of especial importance to this country is the

* President's Address, read at the 2nd Annual Meeting, Missouri Pacific Railway Surgeons' Association, St. Louis, January 29-30, 1932.

close relation of the public to railroads. It has been said that the railroads are the most important factors in prosperity. When the railroads prosper we have good times. Another feature is the investment contacts because all trust estates, banks and insurance companies have much of their surplus invested in railroad bonds. Recently President Law of the Penn State Mutual made the assertion that the insurance companies had more than a billion dollars invested in railroad bonds. You can thus visualize the enormous amount that other interests have invested in like manner.

It is of the utmost importance that every surgeon here rally to the aid of this wonderful company in every section of the Lines in the states represented and explain the injustice of the inroads of busses, trucks, etc., that pay practically no taxes but simply tear up our highways in every county traversed by the Missouri Pacific Lines. If you will look over the tax records you will see that the Missouri Pacific pays more taxes into the coffers of the respective counties than any other agency. This was well illustrated by the *Jefferson City Post-Tribune* in an article in July, 1931, stating the amount of taxes paid by the Missouri Pacific Railroad in Cole County.

I could proceed at length quoting from various statistics bearing on this line of thought but I do not want to trespass on the time of others. My particular plea is for our own railroad whose future is unlimited, thanks to our efficient president, Mr. L. W. Baldwin, whose slogan is "Let Work Begin." Mr. Baldwin's initials, you will notice, are L. W. B.

You may be surprised from all these statements that instead of being a pessimist I am an optimist despite the well-known fact that the doctor is the last man paid.

Jim Hill, the great railroad pioneer, made the statement that the man who is a "bear" in this country will "go broke"; and even with the depression as it is today I still agree with him. I think we need the bitter to make us appreciate the sweet for the American public had begun to think the old, valued dollar grew on trees.

The savings of a railroad company are equally as important as its earnings, if not more so, and a day saved here and another saved there in the aggregate assumes enormous proportions. There is no other form of investment that so vitally affects the general public as the railroads. That this fact is being generally recognized we feel safe in stating but as yet we doubt if the full importance of the railroad to the economy of the individual is fully appreciated and by the same token the importance of efficient medical service in the

economy of the railroad is most certainly not recognized.

The Missouri Pacific has always been the leader in medical service and is ever striving to improve that service and broaden its medical scope. It may be of interest to you to know that the Missouri Pacific was the pioneer in organizing the hospital department and establishing local surgeons along its Lines. The first Missouri Pacific Hospital was founded at Washington, Mo., by Dr. J. W. Jackson, father of a past president of the American Medical Association, Dr. Jabez N. Jackson, of Kansas City. The latter is at present and has been for many years consulting surgeon for this railroad. Dr. Warren B. Outten later established a hospital in St. Louis for the Iron Mountain & Southern, another Gould line, at Carondelet in South St. Louis. The first railroad hospital established in the world was organized by certain divisions of the Southern Pacific in California, but the general hospital plan was first inaugurated by the Missouri Pacific Railroad.

The efficient medical service presupposes (a) capable well-trained men who work earnestly and congenially and (b) adequate equipment, both physical and in personnel. The honest and efficient surgeon is the most valuable asset to any corporation. Our position is rendered doubly difficult by the professional testifier and the ambulance chasing lawyer but they are promptly eliminated by the surgeon rendering a report which may be hurtful in stating the exact truth that in the end acquaints the claim department in settling the claim if it is just, thus preventing the cost of prolonged litigation and particularly a judgment by the jury of excessive verdicts as often occurs. Then too in most every city we have the malingerer who is aided by the ambulance chasing lawyer and surgeon. These two have made inroads on the earnings of corporations and many of them have made large fortunes in plying their wares. St. Louis has been particularly infested with this type, as reports of the claim departments of the different public utilities show a greater percentage of claims paid and exorbitant verdicts in St. Louis than in any other city in the country.

In all of my experience in corporate practice, handling the number of accidents that I have, I can truthfully say I have not averaged once a year appearing as a witness for the Missouri Pacific Lines thus showing that cases were settled out of court. It is apparent to all of you that injuries affecting loss of sight or a portion of sight is a costly problem in the way of excessive verdicts. The workmen's compensation law has been of vast relief to

corporations when properly administered. It is of extreme importance that local surgeons in treating eye cases know what *not to do*. The reduction of claim department loss means reduction of physical disability of the individual and saving to the railroads and public because of the public's investment in the railroads. All of these the Missouri Pacific Railroad Company enjoys; hence, the remarkable results accomplished by the managing director and the chief surgeon.

To Dr. Paul F. Vasterling, whose ideal of hospitalization for railroad medicine has materialized in this wonderful organization at Grand and Shaw Avenues, the Missouri Pacific Railroad and the public owe a large debt of gratitude that will be more and more appreciated as the years roll by and broaden our perspective, but the extent of the debt we owe Dr. Vasterling will never be fully realized. Even those of us who have worked under him for a quarter of a century or more cannot adequately estimate the ramifications of his influence, his quiet resourcefulness, his calm efficiency, his encouraging smile, his sympathetic helpfulness and above all his Spartan loyalty and high sense of duty, his fairness to all, which are but a few of his attributes that have made possible the development of this medical service. Too often in the later development of an organization the one who was the keystone during its infancy is lost sight of and those who have developed the refinements are acclaimed with enthusiasm, so let us pause for a moment and pay homage to that exemplary humanitarian, that efficient doctor, Paul F. Vasterling, former chief surgeon of the Missouri Pacific Railroad Hospital Association.

To Mr. H. J. Mohler and Dr. O. B. Zeinert who are carrying forward the work in such remarkable fashion, too much praise cannot be given.

Mr. Mohler whose position is the most difficult in the whole medical service of the railroad has to possess a peculiar adaptability, an unusual understanding, for he is the liaison between the lay and professional elements of the organization. He must understand the ideas of one and interpret them for the other. He must provide the service for one and not least important must provide the wherewithal to make that service possible for the other.

Dr. O. B. Zeinert, the chief surgeon, is a most worthy standard bearer to lead, correlate and inspire the service branch of the service organization. His is the difficult task of keeping that service personal, sympathetic and human, to prevent that service from becoming mechanical, cold and perhaps even resentful.

That he is fulfilling the highest ideals of his position and that we are all proud to look to him as our chief, I know you will all agree.

To have been chosen president of the Missouri Pacific Railway Surgeons Association is most highly esteemed by me. To be the representative head of such a group of men is an honor but seldom achieved in one's lifetime. Permit me to again express my appreciation of the honor bestowed upon me. I trust I have discharged the responsibilities of the office to your satisfaction. Now that my term of office has been completed I resume my place in the ranks happy to have represented you but happier still to be counted with you a member in an organization rendering such efficient, congenial and human service.

3511 Washington Avenue.

CAUSE OF OBESITY

In order to study obesity satisfactorily, it was necessary for L. H. NEWBURGH, Ann Arbor, Mich. (Journal A. M. A.), to devise methods for the measurement of total heat production and of water exchange. After an accurate record of the inflow and outflow of energy, organic solids and water had been obtained, it was found that the actual body weight always corresponded with that required by the conditions. The author believes that there is no specific metabolic abnormality in obesity. All obesity is "simple obesity." The increase in weight merely represents an inflow of energy greater than the outflow. Failure of the primitive instinct to adjust the inflow of energy to the bodily needs is always the immediate cause of both leanness and obesity.

PROSTATE OPERATION: PROSPECTS OF PATIENT WITH PROSTATIC DISEASE IN PROSTATECTOMY VS. RESECTION

THEODORE M. DAVIS, Greenville, S. C. (Journal A. M. A.), urges early recognition and treatment of infection of the prostate to prevent obstructions. He believes that recognition of early obstructions and their correction by transurethral methods will lessen the number of advanced cases of prostatism. Prostatectomy, previously being the avenue offered, deterred many from seeking relief early, before irreparable damage to the urinary and other organs has occurred. Resection reduces the removal of the obstructing prostate to a minor surgical operation with the accuracy of a cystoscopic procedure and permits operation in the minutest detail under direct vision. Resection reduces the hospitalization to several days as compared to several weeks for prostatectomy with its economic consideration. In bars and contractures, for accuracy and ease of operation, resection excels any previously described. In these conditions there is no excuse for more radical measures. In the large hypertrophies that require one or more resections, with its freedom from mortality and discomfort to the patient, it should be the method of choice, as these conditions can be corrected without resorting to major surgical procedures. In inoperable carcinoma, relief by resection is to be recommended over permanent suprapubic drainage.

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MAY, 1932

EDITORIALS

THE JEFFERSON CITY SESSION— 75TH ANNUAL MEETING

The Missouri State Medical Association has met in Jefferson City more often than in any other city in the state with the exception of St. Louis where the majority of the early meetings were held. This year the annual session will go to Jefferson City for the tenth time and the program and the plans made by the Local Committee on Arrangements indicate that the precedent of a good meeting in Jefferson City will be continued this year.

Fifty-seven addresses will be delivered during the scientific sessions on topics sufficiently varied to convey much valuable information to all physicians. Four symposia of interest to every physician whatever his specialty have been arranged. The Association is especially fortunate in the men who will be guests at the session. Dr. Edward H. Cary, Dallas, who will be installed as president of the American Medical Association at the New Orleans meeting, will deliver an address. Dr. Edgar Allen, Ph.D., Columbia, and Drs. E. T. Bell, Minneapolis; Burton J. Lee, New York City, and William S. Middleton, Madison, will appear on the scientific program.

An added feature of this session will be extensive scientific exhibits which will include: (1) Bronchoscopic Demonstration, Dr. C. R. Bruner, Columbia, chairman; Drs. John S. Knight, Kansas City, and J. B. Costen, St. Louis. (2) Breast Tumors, Dr. Ira H. Lockwood, Kansas City. (3) Surgical and Necropsy Specimens of Kaiserling Prepared and Mounted Material, from the State University Museum, Department of Pathology, Dr. M. Pinson Neal, Columbia, director. (4) Fracture Exhibit with Demonstration of Recommended Methods of Treatment, Drs. Frank D. Dickson, C. B. Francisco and R. M. Schauffer, of

Kansas City; Drs. C. H. Crego, J. Albert Key, M. L. Klinefelter and Archer O'Reilly, of St. Louis. (5) Exhibit of Special Orthopedic Apparatus, Including Bone Lengthening Apparatus of the Femur and Other Special Splints, from the Crippled Children's Service, University of Missouri, Dr. G. Kenneth Coonse, Columbia, director. (6) Cancer Exhibit, Dr. Ellis Fischel, St. Louis. (7) Models of Reconstruction Work, Dr. Earl C. Padgett, Kansas City. (8) Charts and Photographs of an Educational Nature Showing the Clinical Work, Activities, and Progress in Caring for Mental Cases by the Board of Managers of the State Eleemosynary Institutions, Mr. R. L. Laybourn, director. (9) Public Health Educational Exhibit by the State Board of Health, Dr. James Stewart, secretary and state health commissioner.

The entertainment committee has planned a trip to the Capitol, alumni dinners, an evening's entertainment at the penitentiary and a motion picture, "The Lake of the Ozarks" (Bagnell Dam) with talking description. A trip to the Bagnell Dam had been planned but the road will be torn up at that time.

The session will convene in the Auditorium of the Junior College which is arranged conveniently for the meeting. Several hotels assure comfortable accommodations at reasonable rates and quarters will be available in private homes. The Missouri Hotel is headquarters.

While this is the seventy-fifth annual meeting, the Association is actually eighty-two years old having been organized in April, 1850. Meetings were held annually from that time until 1859 when they were suspended until 1867 on account of the disturbance created previous to and during the Civil War.

The committees have worked diligently for the success of the meeting. The personnel of the Committee on Arrangements follows:

General Committee on Arrangements

Dr. J. S. Summers, Jefferson City, Chairman; Dr. W. L. Allee, Eldon; Dr. W. H. Breuer, St. James; Dr. J. A. Hill, Jefferson City.

Local Committee on Arrangements

Dr. W. A. Clark, Jefferson City, Chairman; Drs. W. W. Rambo and F. W. Gillham.

Committee on Entertainment: Dr. James Stewart, Jefferson City, Chairman; Drs. R. P. Dorris, L. David Enloe, E. E. Mansur and S. P. Howard.

Committee on Reception: Dr. M. R. Aldridge, Jefferson City, Chairman; Drs. S. V. Bedford, J. G. Bruce and F. W. Gillham.

Committee on Hotels: Dr. J. G. Bruce, Jefferson City, Chairman; Drs. Herbert Taylor and J. E. Jose.

Committee on Golf: Dr. W. A. Clark, Jefferson City, Chairman; Drs. L. David Enloe, J. T. Leslie, S. V. Bedford and F. W. Gillham.

Committee on Registration: Dr. Ross Hopkins,

Jefferson City, Chairman; Drs. H. T. Leach, H. S. Gove and Irl B. Krause.

Committee on Auto Transportation: Dr. L. A. T. Meyer, Jefferson City, Chairman; Drs. Leon Taylor and H. W. Maxey.

Committee on Scientific Exhibits: Dr. J. S. Summers, Jefferson City, Chairman; Drs. M. Pinson Neal, W. W. Rambo, C. E. Longacre, C. F. Enloe, and Mr. R. L. Laybourn.

Committee on Publicity: Dr. R. L. Russell, Jefferson City, Chairman; Drs. J. F. Jones, Irl B. Krause and C. S. Glover.

HOTELS AND RATES AT JEFFERSON CITY

Reservations for hotel accommodations at Jefferson City should be made in advance of the meeting. Members are urged to communicate with the hotels direct and mention what accommodations they would like to have reserved for them. It is important to mention the price of room desired and to state the probable date of arrival. Should it happen that the hotel is unable to make the reservation desired, members should then write to the chairman of the Committee on Hotels, Dr. J. G. Bruce, Central Trust Building, Jefferson City. The Chamber of Commerce has assured the Committee that because of the legislature and numerous conventions in Jefferson City they are prepared to furnish adequate rooms if the hotels cannot accommodate all those who attend the session. The price of these rooms will be \$1.00 per day. The names of the hotels and rates follow:

MISSOURI HOTEL (150 ROOMS)

	Each Person	Additional Person
Room with shower, one double bed.	\$2.50	\$1.50
Corner room with shower, one double bed	3.00	1.50
Room with combination tub and shower, one double bed.....	3.00	1.50
Room with combination tub and shower, twin beds.....	4.00	2.00
Room with combination tub and shower, three single beds.....	4.00	2.00
Room with combination tub and shower, two double beds.....	4.00	2.00
Room with combination tub and shower, twin beds	3.50	1.50
Two-room suite (parlor and bedroom)	8.00	2.00

CENTRAL HOTEL (85 ROOMS)

Room without bath, one double bed	1.50 up	1.00 up
Room with shower, one double bed	2.00	1.00
Room with tub bath, one double bed	2.50 up	1.00
Room with twin beds.....	4.00	
Room with connecting bath, one double bed	2.50	1.00

NEW MADISON HOTEL (90 ROOMS)

Room without bath	1.50	1.00
Room with bath	2.50	2.00

NEWS OF JEFFERSON CITY MEETING WILL APPEAR IN JULY

News comments on the Seventy-Fifth Annual Session of the Missouri State Medical Association will not appear until the July issue of the JOURNAL, the lateness of the date of the meeting making it impossible to get information about the session in the June issue as has been customary. The meeting has usually been held earlier in the month of May but because of the change in the date of the American Medical Association annual session it was necessary to hold the State Meeting the latter part of the month.

NEW ORLEANS SESSION OF THE AMERICAN MEDICAL ASSOCIATION

The American Medical Association will hold its eighty-third annual session in New Orleans May 9 to 13, the fifth time the Association has met in that city. The 1932 program shows a consideration of the questions pertinent to the physician today and holds promise of as great accomplishment in the dissemination of medical knowledge as the first meeting in New Orleans, held just after the Civil War, accomplished in establishing an enduring cordial relationship between the medical profession in the South and the national association.

Clinical lectures of interest to all physicians will be presented on Monday morning and all day on Tuesday. On Wednesday, Thursday and Friday the various sections will hold their separate meetings and each section has a schedule of addresses which offers a maximum of practical knowledge to be gained. Questions of special interest to the physician at the present time will be dealt with. A symposium on economic problems will be the feature of a joint meeting of the sections on Practice of Medicine and Preventive Medicine. The importance of drug addiction will be considered in two clinical lectures. Special demonstrations on cancer, infantile paralysis and uses of physical therapy will be given daily.

New Orleans is well equipped to be host to the Association as regards medical advantages, accommodation of guests and entertainment. Sixteen hospitals in New Orleans furnish one bed for each 115 of the population. Tulane School of Medicine has graduated 6000 during the ninety-nine years of its existence. During this entire period the school failed to graduate any students only in the years 1863 to 1865 inclusive which was the period of the Civil War. Recently the Medical Center building of the Louisiana State University was completed in New Orleans.

Entertainments at the session will include the President's reception, a dinner for officers and delegates, a dinner for medical veterans, alumni and fraternity dinners, a visit to the leprosarium, trips through Old New Orleans, a visit to Vicksburg, a golf tournament and post-session cruises.

Twenty-four Missouri physicians will appear on the program, seventeen delivering addresses and seven leading discussions. Those who will present addresses are: Drs. John Green, Jr., Carl C. Beisbarth, Vilray P. Blair, L. W. Dean, M. F. Arbuckle, Charles M. Gruber, Isaac Y. Olch, Clinton W. Lane, J. R. Caulk, and Edwin C. Ernst, of St. Louis; O. Jason Dixon, J. L. Myers, Hugh L. Dwyer, Frank C. Neff, W. W. Duke, C. B. Francisco and Ira H. Lockwood, of Kansas City. Conducting discussions will be Drs. Joseph E. Wheeler, Jefferson Barracks; G. D. Royston, Arthur W. Proetz, Paul R. Nemours and Ernest Sachs, of St. Louis; Frank R. Teachenor and Thomas J. Orr, of Kansas City.

CLINIC TOUR PRICES REDUCED

Recent drastic reductions in steamship rates will make even more attractive the already low prices of the Cooperative Clinic Tours this year. The prices allowing tourist class on the ocean have been reduced by \$47.50 and those providing first class have been reduced by \$130. Unquestionably these rates, especially those for first class, will not last. It is our opinion that it will be impossible, with the high grade of service maintained by the North German Lloyd especially on the two ships used in the tours, to continue on the basis of the present prices and there are already rumors of a revision upward in the near future.

In the meantime, however, the tours may be bought at the current bargain rates. It is known that these times afford an unprecedented opportunity to travel at minimum cost. Information about the European clinic tours may be obtained by writing the office of THE JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION.

THE COSTS OF MEDICINES

The people of the United States spend \$715,000,000 annually for drugs and medicines constituting about 20 per cent of the national bill for sickness. Of this amount \$190,000,000 or 26.6 per cent is spent for medicines prescribed by physicians; \$165,000,000 or 23.1 per cent for non-secret home remedies, and \$360,000,000 or 50.3 per cent for "patent medicines" of secret composition, \$15,000,000 of which is estimated to be for cures which are

fraudulent. These figures are quoted in a report "The Costs of Medicines" just issued by the Committee on the Costs of Medical Care.

The average expenditure for medicines is approximately \$22 annually per family of four persons or \$5.50 per member. Actual expenditures per capita vary widely, however, and tend to be highest in the cities.

Among important facts brought out in the survey were: (1) Patients attempting to diagnose their own ailments by comparing their symptoms with those described in patent medicine advertisements may frequently forego proper medical attention until it is too late to effect a cure; (2) "official" medicines can usually be purchased by the pharmacist for a fraction of the price of proprietary medicines or ethical specialties with a corresponding reduction in the price to the patient; (3) approximately 10,000 pharmacists could fill the 165,000 prescriptions now annually handled by 115,000 registered pharmacists but would make it inconvenient for the public to obtain prompt prescription service such as is now possible because of the merchandizing articles of drug stores; (4) although regulations governing the pharmaceutical profession are strict enough, the privileges of unlicensed persons operating outside of a pharmacy are so extensive that the public enjoys little protection in the sales of packaged medicines; (5) while self-medication is increasing, there is not available sufficient information on which the public can base its judgment as to what type of medicine may safely be used for the treatment of simple and minor conditions, and (6) drugs prescribed or dispensed through doctors do not constitute a large portion of the total costs of medical care, physicians' prescriptions plus the drugs dispensed in doctors' offices averaging approximately \$1.50 per person per year.

While the final report of the committee will not be completed until November of this year, the following recommendations were made: (1) Secret-formula drugs and medicines should be abolished through the compulsory disclosure on the label of the kind and quantity of medicinal ingredients. (2) All manufacturers of drugs and medicines should be required to operate under annual licenses to be granted by the federal government upon the fulfillment of satisfactory conditions with regard to competency of personnel, equipment and sanitary surroundings and standardization of finished products. (3) Agencies should be established to prepare and disseminate accurate information concerning the proper use of home remedies appropriate for self-medication with the aid of a committee of physicians and pharmacists of unquestioned reputation and

standing. Unnecessary use of self-prescribed medicine should be rigorously discouraged. (4) Professional knowledge of pharmacists should be used more adequately by reducing physicians' reliance on branded products; by permitting pharmacists to instruct drug store customers in proper use of medicines purchased for self-medication, but not to the extent of diagnosing ailments or recommending medicines; by the pharmacist distributing information dealing with medicines and hygiene prepared by health departments, and by supplying information to the public concerning physicians and hospitals on the basis of data provided by local medical or hospital associations.

NEWS NOTES

Psittacosis has been made a reportable disease by the California State Department of Public Health.

A doctor who checked up on the careers of 625 feeble-minded children found that few lived to be as old as 25 years.

In this country there are more misfed than underfed children says a report of the White House Conference on Child Health and Protection.

Two Japanese doctors who studied the effects of night work on women in Japanese mills report that night workers lost weight and had less resistance to disease.

The next meeting of the State Board of Health for the examination of applicants for license to practice medicine in Missouri will be held at the St. Louis University School of Medicine, June 14, 15 and 16, 1932.

It has been found that 50,000 school children in the United States suffer from defective vision but only 4,000 receive special education and of the 3,000,000 children with impaired hearing less than 20,000 are in schools and classes for the deaf.

Drs. H. S. Crossen and W. H. Olmstead, St. Louis, were guests of the Arkansas Medical Society at its fifty-seventh annual session held in Little Rock on April 5, 6 and 7. Dr. Crossen delivered an address on "Clinical Features of Pelvic Endometriosis" and Dr. Olmstead spoke on "Diabetic Gangrene."

Dr. Sam H. Snider, Kansas City, was the guest of the Hennepin County (Minnesota) Medical Society at Minneapolis on March 16 and delivered an address on "Routine Methods in the Diagnosis of Pulmonary Tuberculosis." He also spoke before the Minnesota Trudeau Medical Society on "Bronchial Function in Pulmonary Tuberculosis."

The use of artificial sunrays to sun tan newborn babies and their mothers with identical numerals, thus eliminating any chance of error in infant identification, was adopted at the General Hospital, Kansas City, April 9. The branding of the baby and mother is done before the mother or child is taken from the delivery room. An ultraviolet ray stencil is placed on the sole of the foot of the baby and the arm of the mother. The numerals remain visible for a period of about ten days.

The malaria control program of the Missouri Pacific Lines which has been conducted for the last eight years will be continued this year, according to Mr. L. W. Baldwin, president of the company. The cost of this year's work will bring the total expended for this purpose to \$120,000, part of which has been borne by the communities in which the work has been done. The work is under the direction of Mr. L. A. Henry, sanitary inspector and engineer, with headquarters in St. Louis. The program calls for the destruction of mosquito breeding places by oiling ponds and stagnant creeks, screening windows and distributing quinine among residents of the communities.

President Hoover, on March 21, set aside by proclamation May 1 as Child Health Day. The proclamation points out that "the children of this nation are our most precious possession, the causes and objects of our deepest affections, and in them is the promise of our future homes, and we have in them the constant and unfailing source of vitality, wealth and leadership. . . . The knowledge of how to protect and promote their health, physical, mental and spiritual, is more accessible than ever before as the reports to the White House Conference on Child Health and Protection give tangible evidence." The proclamation concludes with an invitation to "all agencies and organizations interested in child welfare to unite upon that day in the observance of such exercises as will awaken the people of the nation to the fundamental necessity of unremitting effort for the protection and development of the health of the nation's children."

Dr. R. L. Sutton, Kansas City, was the guest of the Caldwell-Livingston County Medical Society at Chillicothe on March 15. He delivered an illustrated address on the diagnosis and treatment of cancer of the skin and conducted a clinic at an afternoon session of the Society. In the evening Dr. Sutton presented a travel lecture before a public meeting.

Dr. Robert J. Terry, St. Louis, professor of anatomy at Washington University, addressed the session of the American Association of Physical Anthropologists in Washington, D. C., on March 23. He described studies made at Washington University on differences in the anatomy of whites and Negroes. He emphasized the formation of the collar bones of the two races pointing out that in the Negro there is a tendency for the collar bone to be longer than in whites and distinctly narrower at the end where it is bound by ligaments to the shoulder blade.

A recent survey showing that 5 per cent of the students in St. Louis high schools have speech defects was reported at the first meeting of the St. Louis Unit of the National League for the Rehabilitation of Speech held at the Central Institute for the Deaf on April 11. Superintendent John J. Gerling of the St. Louis schools estimated that \$500,000 a year is being spent annually in St. Louis on special education for children whose defects are remedial. Among those who addressed the session were Dr. Max A. Goldstein, chairman of the local unit, Dr. P. E. Kubitschek, Dr. Paul J. Zentay, Dr. James Lewald, Dr. Leo Fagan, Dr. Francis Reder and Dr. O. W. Brandhorst, orthodontist.

Homicides in the United States have doubled in the last thirty years, according to an article by Dr. Frederick Hoffman, statistician, in the *Spectator*, an insurance trade paper. He based his estimate on a study of 164 cities in which the average rate of homicides reached 10.9 per 100,000 population. In thirty-one of the larger cities the rate was 5.1 per 100,000 in 1900, 11.3 at the peak in 1925 and 10.8 last year. The rate for the five cities of more than 1,000,000 population was 14.1 in Chicago, 10.8 in Detroit, 8.3 in New York, 7.2 in Philadelphia and 7 in Los Angeles. The homicide rate in St. Louis last year was 15.8 based on 131 homicides in a population of 827,900 a decrease from 16.8 in 1930. Of the 164 cities tabulated, thirty-nine had a higher rate than St. Louis, Birmingham, Alabama, leading the list with 54.9.

Approximately 5,630,000 of the 45,000,000 children in the United States were found by the White House Conference on Child Health and Protection to be handicapped to an extent requiring special attention and education. Seven ninths of the nation's children were found to be normal but only 1,500,000 were found to be specially gifted. Detailed information on the training of handicapped children is given in a report just published by the committee, one of forty reports resulting from the conference.

The American Association for the Study of Goiter will convene in Hamilton, Ontario, Canada, June 14, 15 and 16. Hospital clinics from 7:15 to 9:30 will open each day's program and dry clinics will take up the remainder of the morning sessions. Scientific treatises will be presented at the afternoon meetings each day and at an evening meeting on the first day. The annual dinner will be given on the evening of the second day. Dr. Kerwin W. Kinard, Kansas City, is an executive councilor of the association and will take part in leading the discussion in one of the dry clinics at the session. Other Missouri physicians who are members of the associations are Drs. E. G. Blair and Claude J. Hunt, of Kansas City, and W. H. Cole, Francis Reder and Daniel L. Sexton, of St. Louis.

The following articles have been accepted for New and Nonofficial Remedies:

Connaught Laboratories

Insulin—Toronto, 40 Units, 10 c.c.

Insulin—Toronto, 80 Units, 10 c.c.

Insulin—Toronto, 100 Units, 10 c.c.

Cutter Laboratory

Diphtheria Toxin Antitoxin Mixture 0.1 L + (Goat)—Cutter

Lederle Laboratories, Inc.

Solution Liver Extract Parenteral (Lederle) Refined and Concentrated

Eli Lilly & Company

Merthiolate Ophthalmic Ointment 1:5000

Tincture Merthiolate 1:1000

H. K. Mulford Company

Pneumococcus Antibody Globulin Type I—Mulford

National Drug Company

Diphtheria Toxoid, one vial package

Pollen Antigens—National, one 5 c.c. vial package

Pollen Antigens—National, four 1 c.c. syringe packages

Pollen Antigens—National, sixteen 1 c.c. syringe packages

Schick Test (Peptone Diluent)

Von Pirquet Test for Tuberculosis

Analyses of blood samples from feeble-minded persons and epileptics were reported by Dr. Sidney S. Negus, Richmond, of the Medical College of Virginia at the meeting of the American Chemical Society in New Orleans on March 29. Low content of cholesterol was one exceptional feature common in the blood of thirty idiots and fifty epileptics studied by Dr. Negus. The oxygen content of venous blood was found to vary somewhat from the normal but inorganic and acid-soluble phosphate, lecithin, hemoglobin, red cell count and cell volume of the blood were found to be within normal limits.

Dr. Fred. H. Albee, New York City, in the current issue of the *American Journal of Surgery*, describes some cases in which bacteriophage apparently aided healing of infected wounds. He explained that he had formerly treated infected wounds, such as those following injury, compound fractures and osteomyelitis, by the Carrel-Dakin method which was found successful during the World War. More recently, Dr. Albee has used a method proposed by Dr. H. W. Orr of Lincoln, Nebraska, which he has found even more successful. This treatment is the direct opposite of the Carrel-Dakin method and consists chiefly in sealing the wound with gauze and vaseline and leaving it alone for weeks. In searching for an explanation of the excellent results with the new treatment Dr. Albee tested the theory of bacteriophage. Pus taken from the infected wound before the first dressing was put on was examined and several types of organisms were found in it. Some of these could be destroyed by stock races of bacteriophage. After further bacteriological procedures a bacteriophage was obtained from the pus which destroyed stock strains of germs and also the strains obtained from the wound itself. There are now forty-eight races constantly available. Some of these have been isolated and bred from wound cultures, but the laboratory's favorite hunting ground is in sewage and cesspools because certain races of phage are always present in varying amounts in the intestinal tract of man.

From this investigation, Dr. Albee concluded that the bacteriophage developed spontaneously in the wound and destroyed the germs there, or at least destroyed their ability to harm the body tissues. Now, if infected wounds prove stubborn about healing, Dr. Albee adds doses of bacteriophage to the treatment. He emphasizes that the bacteriophage must be specific for the kind of germs found in the wound, and he also warned physicians to be conservative in the adoption of this mode of the treatment.

Announcement of plans to improve conditions for the deaf-blind has been made by the Volta Bureau, Washington, D. C., through *Science Service*. The organizations undertaking the program are the American Foundation for the Blind, the American Association to Promote the Teaching of Speech to the Deaf and the American Federation of Organizations for the Hard of Hearing. More than 700 deaf-blind persons have been discovered in the United States and Canada and it is believed that more cases remain unlisted. The ultimate object, says the announcement of the Volta Bureau, is to provide when needed such requirements as the following: (1) The necessities of life; (2) lessons in braille, typewriting, speech reading, finger spelling or other modes of communication; (3) lessons to fill the gaps in their general education; (4) lessons in handicraft or trades; (5) regular employment when possible; (6) help in finding markets for their work when it is of good quality; (7) friends to devote a certain time regularly to their recreational needs; (8) reading matter in the special embossed print with which they are familiar; (9) hearing aids when usable, and (10) medical or financial assistance.

More than 400 inquiries have been received by the St. Louis Clinics on the Post-Graduate Course and Clinical Conference to be held in St. Louis from May 16 to 27. The inquiries have come from physicians in thirty-two states. Registration will be limited to 100.

The conference will consist of lectures, demonstrations and clinics on medical and surgical subjects; it is not arranged in courses but the subject matter has been selected with special reference to the requirements of the general practitioner. The entire course will be presented this year by St. Louis physicians, a departure from preceding years. All are men well known for achievements in their special fields and the large amount of clinical material available in this medical center assures the physician a maximum amount of practical information at a minimum of expense. A "Symposium on Tuberculosis" will be presented in the evening on May 17 and a "Clinical Evening" on May 24. Round-table luncheons will be held daily at the various participating hospitals allowing the attending physician a closer contact with the speakers and permitting the opportunity of presenting problems arising in his practice.

The course will be presented at the various hospitals and headquarters will be the St. Louis Clinics office in the St. Louis Medical Society building, 3839 Lindell boulevard, where information on the course may be obtained.

An estimate of one hundred thousand drug addicts in the United States is an overstatement, H. J. Anslinger, commissioner of narcotics, United States Treasury Department, said in testimony given recently to the House Appropriations Committee. He placed the average age of the addicts at 38 years and said "we are not getting young addicts in this country. The youth of this country is not narcotic-minded." Imprisonment rarely cures a drug addict of his affliction, Mr. Anslinger said. He stated that the addiction in agricultural districts is very small and that most addicts west of the eastern seaboard are morphine users; New York has a heroin problem and San Francisco has to deal with opium smoking. Cocaine is used mostly among the colored population although there is some cocaine addiction among whites.

All farm products to be used through the ensuing year at State Hospital No. 2, St. Joseph, will be raised on the institution's farm if present plans are carried out. Crews of patients and fourteen attendants assigned to the farm and garden division began planting as soon as the weather permitted. The hospital rents 1568 acres of farm land and last year 30,000 gallons of vegetables and fruits raised on the farm were canned. The canning factory was installed late last season and it is planned that more than 100,000 gallons of produce will be canned this year. Last year products raised on the farm and used by the institution or sold amounted to \$163,900.87 and cleared \$100,000 according to Mr. George Gilpin, steward. The dairy herd supplied the institution \$53,389.14 worth of products; the greenhouse, \$3,931.03; the poultry farm, \$2,530.97; the orchard, \$1,760.75; the vineyard, \$505; sale of stock, \$14,358.70; pork butchered, \$249.20, and farm products, \$87,176.08.

The St. Louis Trudeau Club will hold its next regular monthly meeting at Robert Koch Hospital, May 5, 1932, at 8:00 p. m. Members of the resident and consultant staffs of Koch Hospital have arranged the following scientific program: (1) "A Preliminary Report of a Study of the Reaction of White Blood Cells to Tuberculin *In Vitro*," Dr. Julius A. Rossen, consultant pediatrician, and Dr. Ralph L. Ehrlich, resident physician. (2) "A Summary of Results from Thoracoplasty and Phrenic Neurectomy in the Treatment of Pulmonary Tuberculosis at Koch Hospital," Dr. Duff Allen, consultant surgeon, and Dr. Reuben E. Stone, resident physician. (3) "Co-existent Pulmonary Tuberculosis and Dia-

betes," Dr. Benjamin Margulois, resident physician. (4) "A Study of Forty Cases of Enteric Tuberculosis Treated With Ultraviolet Light," Drs. John J. Ryan and Arthur Whitaker, resident physicians. (5) "Report of a Case of Unusual Calcium Deposits in the Lung or Pleura of a Tuberculous Lesion," Dr. William E. Cook, resident physician. Members of the State Medical Association are invited to attend.

The clinical years of study at the University of Missouri School of Medicine will be suspended beginning August 31, 1932, until such time as the university finances permit the continuance. President Walter Williams announced on April 2. The third and fourth years of study were reestablished a year ago last fall by the board of curators after having been discontinued since 1910. During the present academic year about a dozen students have been enrolled in the third year and the fourth year curriculum was to have gone into effect next fall. Provision has been made to transfer the advanced students to other institutions and arrangements may be made for these students to receive their degrees from the University of Missouri upon the completion of their course elsewhere.

Concerning the suspension of the course President Williams said, "This suspension is temporary and is due entirely to the shortage of State funds. The establishment and maintenance of the third and fourth years in medicine at Columbia have been amply justified. The clinical facilities provided have been more than sufficient in practically all branches for modern medical education."

A 10 per cent decrease in the appropriation of the St. Louis Hospital Division was ordered by the Board of Estimates and Appropriations on April 4. The decrease in expenditure can be met only by turning patients out of the various city institutions and refusing to accept others, according to Hospital Commissioner Lohr. Comparing the number of patient days at each municipal eleemosynary institution in the year just closed (the number was calculated with one week yet to run) with the number in the previous year, Commissioner Lohr gave the following increase in services: Hospital No. 2 (city hospital for Negroes), 19 per cent; City Infirmary, 6 per cent; Training School, 5 per cent; City Hospital, 2 per cent; Koch Hospital, 1 per cent, but the increase would have been much larger if there were more room, and City Sanitarium, 1 per cent. There has been an 8 per cent increase in the number

of consultations with patients at the City Dispensary in the last year and 300 per cent in the last ten years. The Isolation Hospital is the only institution showing a decrease for the year, 15 per cent, but this is due to the decreased incidence of contagious diseases and Dr. Lohr pointed out that an increase might occur at any time.

Every institution except the Isolation Hospital is housing a record number of patients, far in excess of the capacity. The latest figures on the number of patients, compared with usual capacity, are: City Sanitarium, 2500 capacity, 3380 patients; City Infirmary, 800 capacity, 995 inmates; City Hospital, 600 capacity, 837 patients; Training School, 432 capacity, 569 patients; Koch Hospital, 300 capacity, 498 patients; Hospital No. 2 (for Negroes), 250 capacity, 471 patients; Isolation Hospital, 200 capacity, 177 patients. The total capacity of the eleemosynary institutions is 5082 and the total number of inmates is 6927.

OBITUARY

CHARLES SIXTUS REHFELDT, M.D.

During the latter part of the nineteenth century many young men preceded their medical career by a preliminary training as pharmacists. The relationship of doctor and apothecary was more intimate in those days than it is now. Dr. Rehfeldt entered the ranks of medical men by that portal which gave the world a large number of most excellent doctors. Not a few of these have reached the pinnacle of fame in their profession.

Charles S. Rehfeldt was born in St. Louis, September 1, 1873. His father, Charles Rehfeldt, a manufacturer of cigars, was a man of education, very religious, and studious. His mother, nee Constance V. E. Kaminsky, was a member of a talented family from German-Poland, distinguished in music and literature. His paternal heritage consisted of earnestness of purpose and pious sincerity. From his maternal ancestors came mental alertness, quick conception and an artistic taste for the beautiful things in life.

He finished his preparatory education, served as qualified pharmacist in the United States Marine Hospital and Public Health Service and then entered Missouri Medical College from which he was graduated in 1896.

He obtained his hospital training in the Marine Hospital at Evansville, Indiana, as acting assistant surgeon, and since 1898 has been located in the city of his birth practicing internal medicine. For a number of years he held the

chair of physical diagnosis at the American Medical College. Having always had a leaning in that direction he finally specialized in diseases of the nose and throat and served in that department of the Washington University School of Medicine. During the late war he held the rank of captain in the Medical Corps. To our Society he has contributed efficient service as officer and member of important committees. He honored the organization by frequently attending its meetings.

Dr. Rehfeldt was a very gracious host who derived great pleasure in entertaining his friends. One of his accomplishments, perhaps even a hobby, was the ability to actually prepare a meal. Those who have enjoyed his hospitality remember his delight at being able to provide savory dishes to the delectation of his favored guests.

To his surviving widow, Mrs. Emma Fehl Rehfeldt, we extend our heartfelt sympathy knowing that she has been deprived of a faithful mate who shared with her an exceptionally harmonious wedded life. With his passing on February 13, 1932, the St. Louis Medical Society has lost an honored member who will be missed. R. E. S.—in the *Weekly Bulletin* of the St. Louis Medical Society.

JULIUS KANGISSER, M.D.

Dr. Julius Kangisser, St. Joseph, a graduate of the St. Louis University School of Medicine, 1912, died March 25 at the Missouri Methodist Hospital due to an intestinal ailment following an emergency operation. He was 46 years old.

Dr. Kangisser was born in Russia and received his early education there. He came to the United States with an older brother when he was sixteen. Dr. Kangisser taught in a Hebrew school in St. Louis and later became principal of the school. While a teacher he studied English devoting his time to night study so that he might begin a medical career. After having mastered a general knowledge of English he entered St. Louis University where he received his medical degree. For two years he served as intern in hospitals in Louisville, Kentucky; Chattanooga, Tennessee, and in Canada after which he went to St. Joseph to begin his practice. Gifted with a personality to make friends, he soon became well established as a physician and surgeon. He became a member of the Buchanan County Medical Society in 1923 and took an active interest in medical affairs. He was a member of the staffs of the Missouri Methodist and St. Joseph's hospitals. During the World War he was appointed a captain in the medical corps of the Canadian army.

Dr. Kangisser was known as a student of the Bible of Hebrew literature and of history, and also as a lecturer on Hebrew works. For two years he was president of the St. Joseph Hebrew School. He was a director of the Federated Jewish Charities, a member of the library board of Temple Adath Joseph, past president of the Bnai Brith Association and a member of the general commission of the National Bnai Brith Association. His biography recently appeared in an issue of "Who's Who of American Jewry."

He is survived by his widow, Mrs. Doris Kangisser, two sisters and seven brothers.

LOUIS J. WOLFORT, M.D.

Dr. Louis J. Wolfort, St. Louis, a graduate of the Missouri Medical College, St. Louis, 1895, died at the Josephine Hospital on April 1 of streptococcus cellulitis caused by epidermophytosis. He was 60 years old.

Dr. Wolfort followed his medical studies at the Missouri Medical College with postgraduate courses in Berlin and Vienna. He interned at the St. Louis City Hospital and then began practicing in St. Louis.

For the last fifteen years Dr. Wolfort had been superintendent of Josephine Hospital but continued to maintain an office in the Chemical building. He was a member of the State Board of Examiners for Nurses and was at one time coroner's physician.

Dr. Wolfort was highly respected and well liked by his colleagues and during his long practice in St. Louis had made many friends. His death is deeply mourned.

He is survived by a sister and four brothers.

ULYSSES G. HOSHAW, M.D.

Dr. U. G. Hoshaw, Joplin, a graduate of the Hospital College of Medicine, Louisville, 1895, died in St. John's Hospital April 13 as a result of paralysis, aged 62. Dr. Hoshaw had been in the hospital about a month having gone there suffering from heart disease, pneumonia and complications. On March 18 he suffered the first of two strokes of paralysis.

Dr. Hoshaw received his preliminary education in the University of Iowa. After completing his medical education he began his practice in Chanute, Kansas. He operated a hospital there and was widely known in that section of Kansas. In 1913 he moved to Joplin and continued his practice specializing in surgery and gynecology.

He became a member of the Jasper County Medical Society in 1914 and was a Fellow of the American Medical Association. At one

time he was county physician of Jasper County.

During the score of years Dr. Hoshaw had practiced in Joplin he had gained a large circle of friends and had won the high esteem of his colleagues.

He is survived by his widow.

WILLIAM FRANKLIN SIMS TAYLOR, M.D.

Dr. William F. S. Taylor, Poplar Bluff, a graduate of the Tennessee Medical College, Memphis, 1892, died on January 1 at the Brandon Hospital as the result of a paralytic stroke suffered at his office the preceding day. He was 66 years old.

Dr. Taylor was born in Pope County, Illinois. He went to Poplar Bluff in 1883 and following the completion of his medical studies he returned to Poplar Bluff to practice. He later took postgraduate work in Kansas City and New York.

For years Dr. Taylor had been one of the prominent physicians and business men in his section of the State. At one time he took an active interest in politics and served as associate judge of Butler County Court and also as coroner of the county. He had been a member of his church for more than thirty years.

Dr. Taylor was an enthusiastic follower of organized medicine. He was alternate delegate to the State Meetings in 1920 and 1926 and was a past president of the Southeast Missouri Medical Society.

During the forty-six years Dr. Taylor had practiced in Poplar Bluff he had endeared himself not only to his patients but to all in the community.

He is survived by his widow, Mrs. Flora Taylor, a son, a daughter, a sister and a brother.

MISCELLANY

JEFFERSON CITY

Missouri's Capital City

Jefferson City, the capital of Missouri and county seat of Cole County, is near the geographical center of the state on the heights overlooking the Missouri River. It is one of the fastest growing cities of the Middle West. The remarkable civic, commercial and industrial progress of the city during the last ten years is reflected in the steady increase of population. The population (1930 U. S. Census) is 21,596, an increase of 7,106 over the census figure of ten years before.

The city is served by the main line of the Missouri Pacific Railroad, also the Missouri River route and Bagnell branch of this railroad; by the main line of the Missouri-Kansas-Texas Railroad, and the



ST. MARY'S HOSPITAL.

Chicago and Alton Railroad. A network of cross-state motorbus lines center at Jefferson City, and it is the intersection point of three United States highways, Numbers 50, 63 and 54. More than 200,000 visitors view the Capitol and other state buildings each year.

History and Capitol

Jefferson City was made the capital of Missouri by a bill approved by Governor Alexander McNair, first governor of the state, on New Year's Eve of 1821. This date may be called the birthday of Jefferson City. The town was laid out in 1822 and the first Capitol was built four years later.

The original statehouse was destroyed by fire in 1837 and a more commodious edifice, begun the same year, was completed in 1842. Bayard Taylor, famous traveler and poet, on visiting the city, described the site of the Capitol on the bluff above the river as the most picturesquely beautiful location selected for such a purpose by any state in the Union.

In 1887 two wings were added to the building and in 1911 fire destroyed this structure. The present magnificent building was erected under the direction of a bipartisan commission of four members who entered upon their duties October 6, 1911, and turned over the new Capitol to the State October 5, 1918. Dedication ceremonies, delayed by the World War, were not held until October 6, 1924.

In addition to the outstanding art and architectural features of the Capitol building are the Soldiers' and Sailors' Museum and the quite complete natural history, agricultural and historical museum which is of interest to students and laymen. State radio station WOS is located in the Capitol. From the 260-foot dome of the Capitol may be obtained an inspiring view of the beautiful city, the Missouri River and the surrounding country.

Other important places of interest in Jefferson City are the State Penitentiary and the State Su-



HOTEL MADISON.

preme Court building. The Supreme Court building contains one of the most complete law libraries in the world including the reports of the highest courts of every English-speaking nation and of every state in the union. The State Highway Department occupies its own building.

St. Mary's Hospital

The St. Mary's Hospital of Jefferson City was built and is controlled by the Sisters of St. Mary. It is a fire-proof, four-story, modern stone building with one hundred beds. The first part or front wing was built and dedicated October 18, 1905. This structure was not fire proof and the interior was burned February 20, 1919. It was then rebuilt so that it is fire proof and was dedicated May 31, 1920. As this building was not adequate for the wants and needs a new wing was added in 1931 which also is fire proof. The hospital is approved by the American Medical Association and the American College of Surgeons. The hospital has an adequate staff which holds monthly meetings. It has excellent laboratory and roentgen ray service and two well-equipped operating rooms. The fourth floor is devoted to obstetrics and is furnished with modern equipment. The hospital records show that out of the total number of patients cared for since its organization, 10 per cent were part-pay patients and 18 per cent were free patients.

The Sisters of St. Mary and the staff of the hospital extend a cordial invitation to members of the



CENTRAL HOTEL.



MISSOURI HOTEL (HEADQUARTERS).



JUNIOR COLLEGE.



COMMUNITY SWIMMING SCHOOL.

Association to visit the hospital during the convention.

Industry, Commerce, Hotels, Airport

Included in the industrial establishments of the city are three large shoe factories, two of the International Shoe Company and the Tweedie Footwear Corporation; one of the finest color printing establishments in the country, Botz Printing and Stationery Company; tire, chain and wood product factories; a large milling establishment; paper box and broom factories, and ice cream and beverage plants. Jefferson City is the headquarters and home office of the chain of the D. M. Oberman Manufacturing Company, clothing factories. It is the home office of four insurance companies. There are two daily newspapers, the *Capital News* (morning) and the *Jefferson City Post-Tribune* (afternoon). Large shops of the Missouri Pacific Railroad are located in Jefferson City, the payroll being in excess of \$1,100,000 annually. Three large utilities furnish adequate telephone, light, power, gas, water and transit service.

Jefferson City is the key city to the new super-hydro-electric power plant at Bagnell and the Lake-of-the-Ozarks region, about forty miles south. The plant is located on the Jefferson City-Bagnell branch of the Missouri Pacific Railroad and cost \$30,000,000. The construction of this great power plant has created much commercial and recreational activity for Jefferson City and Central Missouri.

In the line of progressive development the Chamber of Commerce operates one of the finest airports in the state.

Three strong banks and eight building and loan associations provide ample financial accommodations for this rapidly expanding community. Large wholesale and retail trade establishments serve an ever expanding trade area. Jefferson City is the trade center for the central part of Missouri. The city has unusually good hotel accommodations.

A new postoffice and Federal court building will be constructed in 1932.

As the "Northern Gateway to the Ozarks," Jefferson City welcomes ever increasing thousands of



EXECUTIVE MANSION.

visitors yearly who vacation in the Ozarks, that wonderful playground of America. Moreau Park, two miles from the city on the beautiful Moreau River, is one of the nearby high-class resorts. State Park is one of the most popular recreation spots within the Capital City. Tourist camps for motorists are maintained near the city.

A municipal golf course and a country club, both well maintained, are the scenes of many tournaments each year.

Free public instruction from kindergarten through an accredited municipal junior college is the distinction of Jefferson City's public school system. Besides a junior college, senior and junior high schools, the city has six elementary schools for white children and one grade school for Negroes and Lincoln University, the state institution for higher education of Negroes, in which more than 300 students are enrolled.

Seventeen churches represent all of the major denominations. Welfare and relief agencies are financed through an efficient Community Chest of the Chamber of Commerce.

Agriculture

The city is the center of an important agricultural territory. Dairying, fruit-growing and poultry-raising are being largely developed. Grain farming and beef cattle, hog and sheep production are profitable agricultural activities in this territory.

A county farm agent and College of Agriculture representative are employed in the better farming program. Farm organizations in the county include the Farm Bureau, Missouri Farmers' Association, Farmers' Cooperative Warehouse and farm clubs. Cooperating with the county agent and farm organizations is the agricultural committee of the Chamber of Commerce.

Chamber of Commerce

The Jefferson City Chamber of Commerce is a live organization which has had much to do with the progress of the city and is responsible for many of its more modern tendencies. It is representative of the commercial, professional and manufacturing interests of the city and had its inception in a desire to promote the growth of the community in home building, in manufacturing industries, in civic improvement and in commercial importance.

Missouri's Fine Capitol

Missouri's Capitol, its magnificent setting, the stately building, the splendor of its decorations and furnishings and the treasures of its museums, give citizens a keen sense of appreciation of the glory of Missouri, an understanding of its broad expanse and its vast wealth and an unforgettable pride in its resources.

Not only the Capitol but its setting also is an



AVIATION SCHOOL.



HIGH STREET.

eternal song of Missouri—its strength, its history, its achievements, its arts, its lore and the beauties of its landscape. Built of pure white crystalline limestone marble from the Carthage quarries, with a dome of unsurpassed loveliness, the Capitol stands on a picturesque landscaped tract overlooking the Missouri River which for generations unnumbered served as the great highway between the East and the West. On the bosom of its waters the first Americans, the Indians, paddled their canoes for centuries before the white man's civilization came up its stream.

In Rugged Setting

Jutting from the towering bluffs which add much to the scenic beauty of the site are huge boulders, suggestive of old castles or grim fortresses. It was on these same rugged hills that the mound builders raised memorials to their dead. Viewed from the Capitol at any season of the year it is a song of nature never to be forgotten. Whether it be in the spring when the redbud floods the hillside with color, or in the fall when the leaves have turned to russet and gold, or when Mother Goose has left her feathery flakes clinging to every tree and bush and Jack Frost has sprinkled them over with myriads of diamonds, it is a proper setting for the state Capitol and is worth traveling many miles to see. Missouri's history is portrayed in the carving on the dome and above the porticoes.

When entering the beautifully landscaped grounds at night, with magical moonlight drenching the dome, facade and colonnades of the building, the Capitol has the appearance of a Grecian temple. Upon walking around the grounds and viewing the river with the lights twinkling on the water one will catch himself listening for the sound of the magic flute.

The architecture of the Capitol is in the style of the Renaissance. Fluted columns ornament the walls and towering colonnades support the north and south porticoes and the east and west fronts.

Entering the grounds from High Street, the visitor passes two stately fountains adorned with beautifully sculptured figures. The one on the east side of the walk represents the sciences, the one on the west portrays the arts. One stops to admire the classic beauty of the building before entering. The sunlight flooding its dome brings into bold relief the figure of Ceres, selected as the patron goddess of this great agricultural state, standing on top of the dome 260 feet above the ground. With a sheaf of grain on her left arm, she has her right hand extended downward in perpetual blessing.

Impressive Statuary

In the center of the great stairway leading from the principal entrance to the Capitol is J. E. Fraser's



U. S. HIGHWAY INTERSECTION.

bronze statue of Thomas Jefferson which is 13 feet high. It stands on a handsome pedestal of Rock Creek granite. Other bronze statues are Karl Bitter's Louisiana purchase group and A. A. Weinman's fountains. Above the bronze doors, which are said to be the largest in use since the Roman era, is enthroned a noble figure of Missouri with her left arm resting on a shield bearing the coat of arms.

The magnificent reclining bronze figures on either side of the state stairway of the Capitol symbolize Missouri's great rivers. The splendid female figure on the west with the corn, the wheat, and the fruits of the earth, fittingly represents the broad Missouri River. The noble male figure on the east, with the rudder of Commerce and the caduceus, the magic wand of Hermes, adequately typifies the "Father of Waters."

The legislative halls on the third floor are reached by climbing the grand 30-foot-wide stairway which leads from the front entrance to the third floor.

On the first floor are the resources museum and the soldiers' and sailors' museum. All the arts and crafts of Missouri's people, and all her products are found in the resources museum. In the soldiers' and sailors' museum are portraits of all the governors of Missouri.

Rotunda of Noble Proportions

The rotunda is noble in proportions and is lighted by a series of art windows, magnificent chandeliers and standards. Leading into it on the first floor are two corridors, 60 feet wide and 112 feet long, extending upward through two stories. They are so monumental as to be inspiring. Between the rotunda and the museums are eight large red granite columns from Granitesville, Missouri; in the center of the rotunda is a large replica of the state seal, wrought in bronze.

Overlooking the river on the north side of the second floor are the Governor's rooms. In the cor-



MISSOURI PACIFIC YARDS.



BAGNELL DAM ACROSS THE OSAGE RIVER FORMING THE FAMOUS LAKE OF THE OZARKS.

ridors on this floor are twenty-two lunettes, six feet in size, depicting incidents in Missouri's history and her resources.

The corridor between the House and Senate Chambers with its huge pillars gleaming in the subdued light from the cathedral glass and the magnificent chandelier suspended from the dome, is an enchanting scene. Sixteen marble columns support the gallery in the Senate. The prehistoric period is represented in the art glass windows which portray the landing of DeSoto, the first white man to tread Missouri soil. There are four murals in the Senate representing different epochs in Missouri history.

Twelve granite columns line either side of the House of Representatives. Above the speaker's desk in the west wall is the Schladermundt window which depicts in glowing mosaic colors Missouri in time of peace. On the opposite wall is a painting by Charles Hoffbauer representing Missouri in war.

State History in Paintings

Missouri's history, told in the paintings which line the dome and panels of the walls, is far more thrilling than any motion picture. The colors are as soft as a baby's breath and are incomparable, unless it be to the soft blue, mauve, purple and roseate hues of the sky. Once seen, the beauty of these pictures can never be erased from one's memory. Paintings include Charles Hoffbauer's "Glory of Missouri in War," in the House Chamber; four panels by Richard E. Miller in the Senate; murals in the dome by Frank Brangwyn; the painting of "Missouri in War" by Charles Hoffbauer; and productions by Fred G. Carpenter, N. C. Wyeth, Adolph Blonheim, Henry Reuterdaahl, R. A. Kissack, Frank B. Nuderscher, E. H. Wuerpel, Charles F. Galt, Ralph Chesley Ott, Tom P. Barnett, Robert Hall and P. Humphrey Woolrych, and, in the Governor's reception room, four panels by Gari Melchers.



AIRVIEW OF JEFFERSON CITY.



SKYLINE OF JEFFERSON CITY AT NIGHT.

A visit to the whispering gallery is worth the sore muscles occasioned by the climb to the dome. If one presses his lips to the wall and whispers a secret, he will hear it repeated in loud tones from the opposite side. Continue the climb up the narrow stairs to the top of the dome, step out on the parapet and take a look over the city. One will be out of breath but the bird's-eye view is well worth the exertion. From this vantage point one will see, on the brow of a hill overlooking the Missouri

River, the fountain of the centaurs commemorating the signing of the treaty by which the United States acquired the Louisiana Purchase.

Come to Jefferson City! Visit the Capitol, get a guide and learn to know Missouri legends, Missouri history, Missouri men, Missouri women, Missouri cities, Missouri country-sides, Missouri landscapes, Missouri rivers, Missouri in war and Missouri in peace, and Missouri in all the stages of her existence and development.

MISSOURI STATE MEDICAL ASSOCIATION

75th Annual Meeting, Junior College, Jefferson City

The 75th Annual Meeting of the Association convenes at Jefferson City, Monday, Tuesday, Wednesday and Thursday, May 23, 24, 25, and 26. The House of Delegates will convene Monday, May 23, and hold its first session when a large part of the business of the Association will be transacted. A departure from our custom will be observed in the time of delivery of the addresses of the President and President-Elect. These will be given at the opening session on Tuesday morning, May 24, instead of at the open meeting on Tuesday night. This plan was adopted by the Association at the Joplin meeting in order to give guest speakers ample time for presenting their addresses.

HOUSE OF DELEGATES

Junior College

First Meeting—Monday, May 23, 1932—9:30 A. M.

Order of Business

Roll Call.

Reading of Minutes of Previous Meeting.

Reading of President's Message and Recommendations.

Appointment of Reference Committees—

Committee on Amendments to the Constitution and By-Laws.

Committee on Resolutions.

Committee on Miscellaneous Affairs.

Report of Committee on Arrangements: J. S. Summers, Jefferson City, Chairman.

Report of Secretary.

Report of Treasurer.

Report of Committee on Scientific Work: E. J. Goodwin, St. Louis, Chairman.

Report of Committee on Public Policy: W. L. Allee, Eldon, Chairman.

Report of Committee on Publication: J. C. B. Davis, Willow Springs, Chairman.

Report of Committee on Defense: C. E. Hyndman, St. Louis, Chairman.

Report of Committee on Medical Education and Hospitals: R. A. Woolsey, St. Louis, Chairman.

Report of Committee on Cancer: Ellis Fischel, St. Louis, Chairman.

Report of Committee on Postgraduate Course: C. H. Neilson, St. Louis, Chairman.

Report of Committee on Medical Economics: Joseph W. Love, Springfield, Chairman.

Report of Committee on Constitution and By-Laws: M. P. Overholser, Harrisonville, Chairman.

Report of Special Committees—

McAlester Memorial Foundation, A. R. McComas, Surgeon, Chairman.

Military Committee, Lee D. Cady, St. Louis, Chairman.

Appointment of Committee on Nominations.

Recess till 3:00 P. M.

Report of the Council: A. R. McComas, Surgeon, Chairman.
Report of Reference Committees:
Committee on Amendments to the Constitution and By-Laws.
Committee on Resolutions.
Committee on Miscellaneous Affairs.
New Business (Resolutions, Memorials, etc.)
Selection of Place of Next Meeting.

Second Meeting, Wednesday, May 25, 1932—3:45 P. M.

Roll Call.
Reading of Minutes.
Election of Officers:
Election of President-Elect.
Report of Committee on Nominations.
Installation of President.
Nominations for Standing Committees by President and Confirmation by House of Delegates.
Unfinished Business.

GENERAL MEETING

Tuesday, May 24, 1932—8:30 A. M. Junior College

Address of Welcome.....Hon. H. S. Caulfield, Governor, Jefferson City
Address of the President.....J. F. Harrison, M.D., Mexico
Address of the President-Elect.....Joseph W. Love, M.D., Springfield
Symposium on Diseases of the Kidney:
A Clinical and Pathological Study of Glomerulonephritis and Nephrosis
.....E. T. Bell, M.D., Minneapolis, Minn.
Treatment of Nephritis.....Donald R. Black, M.D., Kansas City
Tuberculosis of the Kidney.....John R. Caulk, M.D., St. Louis
Tumors of the Kidney.....C. E. Burford, M.D., St. Louis
Stones and Pyogenic Infections.....R. Lee Hoffmann, M.D., Kansas City
The Correction of Prostatic Obstructions and Vesical Neck Deformities
by Means of the Resectoscope....Nelse F. Ockerblad, M.D., Kansas City
Urological Diagnosis: Motion Pictures..H. H. Kramolowsky, M.D., St. Louis
Colostomy (Lantern Slides).....Warren R. Rainey, M.D., St. Louis

GENERAL MEETING

Tuesday, May 24, 1932—1:30 P. M. Junior College

Incipient Cataract: Its Incidence and Care..M. Hayward Post, M.D., St. Louis
Retinal Detachment Subsequent to Proliferative Changes and Pigment
Epithelium Simulating Neoplasm.....
Emmett P. North, M.D., and Vincent L. Jones, M.D., St. Louis
Discussion opened by Dr. H. D. Lamb, St. Louis
Advances in Ophthalmology.....A. N. Lemoine, M.D., Kansas City
Headaches of Ocular Origin.....A. W. McAlester, Jr., M.D., Kansas City
Foci of Attack in the Prevention of Blindness in Missouri.....
.....H. D. Lamb, M.D., St. Louis
Symposium on Carcinoma of the Breast:
Clinical Manifestations of Diseases of the Breast.....
.....Jabez N. Jackson, M.D., Kansas City
The End-Results in the Surgical Treatment of Carcinoma of the Breast
.....John H. Ogilvie, M.D., Kansas City
Roentgen Ray Examination of the Breast.....
.....Ira H. Lockwood, M.D., Kansas City
The End-Results in the Treatment of Cancer of the Breast.....
.....Burton J. Lee, M.D., New York City
The Care of the Breasts During Pregnancy and Puerperium (Lantern
Slides).....Fred Emmert, M.D., St. Louis
Hormone Control of Changes in the Endometrium During the Menstrual
Cycle.....Edgar Allen, Ph.D., Columbia

GENERAL MEETING

Session Open to the Public

Tuesday, May 24, 1932—7:30 P. M. Junior College

Seventy-Fifth Annual Meeting of Missouri State Medical Association
.....Joseph Grindon, M.D., St. Louis

- The Relation of the Modern Doctor to the Public.....
Edward H. Cary, M.D., Dallas, Texas, President-Elect, American Medi-
cal Association
A Clinical and Pathological Study of Primary Hypertension.....
.....E. T. Bell, M.D., Minneapolis, Minn.
Indications for Surgery and the Indication for Irradiation in the Treat-
ment of Cancer.....Burton J. Lee, M.D., New York City

GENERAL MEETING

Wednesday, May 25, 1932—8:30 A. M. Junior College

- Experimental Transplantation of the Pancreas Into the Stomach. Pre-
liminary Report
.....A. M. Tripodi, M.D., and Charles F. Sherwin, M. D., St. Louis
Discussion opened by Dr. Charles F. Sherwin
Symposium on Syphilis:
Syphilis of the Circulatory System.....
.....Wm. S. Middleton, M.D., Madison, Wis.
Syphilis of the Nervous System.....Sidney I. Schwab, M.D., St. Louis
Syphilis of the Osseous System.....Archer O'Reilly, M.D., St. Louis
Hereditary Syphilis.....Charles C. Dennie, M.D., Kansas City
Presence of Syphilis in Compensation Cases From the Standpoint of
the Workmen's Compensation Commission..Mr. J. J. James, Member,
Workmen's Compensation Commission, Kansas City
Presence of Syphilis in Compensation Cases From the Standpoint of the
Physician.....Paul F. Stookey, M.D., Kansas City
Respiratory Infections That Mimic Appendicitis: Their Importance to
the Surgeon.....Paul S. Lowenstein, M.D., St. Louis
A Postmortem Analysis as to Etiology in Seven Hundred Forty-Two
Cases of Peritonitis.....C. C. Pflaum, M.D., Columbia
The Value of Routine Basal Metabolism in the Examination of Patients
.....A. L. Anderson, M.D., Springfield

GENERAL MEETING

Wednesday, May 25, 1932—1:30 P. M. Junior College

- The Diagnosis of Cerebellar Disease.....
.....B. Landis Elliott, M.D., Kansas City
Cinchophen Poisoning: Clinical and Experimental Evidence.....
.....Emsley T. Johnson, M.D., Kansas City
Peripheral Burn: Pathology and Treatment..B. L. Myers, M.D., Kansas City
Indications for Cesarean Section.....W. C. Gayler, M.D., St. Louis
The Differentiation of True Diabetes and Pseudodiabetes (Lantern Slides)
.....B. Y. Glassberg, M.D., St. Louis
Improved Hospital Service and the Public.....
.....Joseph D. James, M.D., Springfield
The Clinical Use of Digitalis.....Sinclair Luton, M.D., St. Louis
At 3:45 p. m. the General Meeting will adjourn and the House of Dele-
gates will convene.

GENERAL MEETING

Thursday, May 26, 1932—8:30 A. M. Junior College

- Symposium on Diseases of the Ear, Nose and Throat:
Sinus Disease.....E. S. Connell, M.D., Kansas City
Mastoid Disease.....Selden Spencer, M.D., St. Louis
Sinus Thrombosis.....W. E. Sauer, M.D., St. Louis
Thymic Deaths.....Harry M. Gilkey, M.D., Kansas City
Keratosis of the Face and Hands.....G. V. Stryker, M.D., St. Louis
The Pathogenesis of Acne Vulgaris....M. F. Engman, Jr., M.D., St. Louis
The Modern Management of Acne Vulgaris.....
.....Norman Tobias, M.D., St. Louis
Precancerous Lesions of the Skin (Lantern Slides).....
.....A. H. Conrad, M.D., St. Louis
The Problem of the Narcoleptic.....E. Sanborn Smith, M.D., Kirksville

GENERAL MEETING

Thursday, May 26, 1932—1:30 P. M. Junior College

- The Indefensible Use of Morphine by the Medical Profession.....
.....G. Wilse Robinson, Jr., M.D., Kansas City
Arthritis.....A. P. Munsch, M.D., St. Louis

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL FOR 1932

(UNDER THIS HEAD WE LIST SOCIETIES WHICH
HAVE PAID DUES FOR ALL THEIR MEMBERS)

HONOR ROLL

Ste. Genevieve County Medical Society,
December 16, 1931.
Miller County Medical Society, Decem-
ber 23, 1931.
Mercer County Medical Society, Decem-
ber 24, 1931.
Camden County Medical Society, January
5, 1932.
Johnson County Medical Society, Janu-
ary 20, 1932.
Dent County Medical Society, January 22,
1932.
Macon County Medical Society, February
10, 1932.
Webster County Medical Society, March
21, 1932.
Platte County Medical Society, April 7,
1932.
Pulaski County Medical Society, April 8,
1932.
Schuyler County Medical Society, April
14, 1932.
Ralls County Medical Society, April 22,
1932.

BATES COUNTY MEDICAL SOCIETY

On April 5 the Bates County Medical Society
elected the following officers for 1932: President,
Dr. R. E. Crabtree, Butler; secretary, Dr. C. W.
Luter, Butler.

C. A. Lusk, M.D.

JOINT MEETING OF BATES AND VER- NON-CEDAR COUNTY MEDICAL SOCIETIES

The Bates and Vernon-Cedar County Medical So-
cieties met February 18 in the Parkview Hotel, Rich
Hill. The president called the meeting to order and
invited Dr. W. H. Allen, Rich Hill, to preside. The
guests were: Drs. R. Lee Hoffmann and John H.
Ogilvie, of Kansas City; P. C. Kelley, Metz, and
E. K. Musson, Eldorado Springs.

Dr. R. Lee Hoffmann gave an illustrated lecture
on "Hematuria: The Significance, Operations Fol-
lowing, and Treatment."

Dr. John H. Ogilvie read an interesting paper on
"Head Injuries, Their Classification, Care and Prog-
nosis."

Dr. E. K. Musson discussed "Immunity of School
Children."

Dr. P. C. Kelley presented a rare clinical case
which was referred to Dr. F. M. Grogan, Nevada,
and Dr. R. Lee Hoffmann, Kansas City.

Close attention was given to this program and we
extend our thanks to the visiting physicians for their
instructive talks.

The following attended: Drs. R. Lee Hoffmann and
John H. Ogilvie, of Kansas City; W. H. Allen, C. J.

Allen and R. R. Shafer, of Rich Hill; R. E. Crab-
tree, C. A. Lusk, J. S. Newlon and T. J. Halsey, of
Butler; L. L. Cooper, W. L. Davis, F. M. Grogan,
J. T. Hornback, R. B. Jordan, E. H. Liston, F. L.
Martin and Y. M. Yater, of Nevada; A. G. Altham,
Sheldon; P. C. Kelley, Metz, and E. K. Musson,
Eldorado Springs.

BUCHANAN COUNTY MEDICAL SOCIETY

The regular monthly meeting of the Buchanan
County Medical Society was held at St. Joseph,
February 17, at 8 p. m., with the president, Dr. A. E.
Burgher, St. Joseph, in the chair.

The application for membership of Dr. Judson M.
Hughes, Hamburg, Iowa, by transfer from the Fre-
mont County (Iowa) Medical Society, was approved
by the board of censors and Dr. Hughes was
unanimously elected a member.

The application of Dr. Matthew H. Talty, St.
Joseph, was read and referred to the board of cen-
sors.

The following amendment to the by-laws, intro-
duced by Dr. Daniel Morton, St. Joseph, was
adopted:

Section 2. There shall be two classes of members as fol-
lows: (A) Active members. They shall control and shall
have all the privileges of the Society. (B) Honorary mem-
bers. They shall be members of this Society who have
reached the age of seventy-five years, having been active for
ten or more years. Members who have been in active prac-
tice and who have become wholly or partially incapacitated
by illness or accident shall also be eligible and entitled by
vote of the Society to be classed as Honorary members.
They shall be exempt from payment of dues and entitled to
all the privileges of membership.

Dr. Harry S. Conrad, St. Joseph, read a paper en-
titled "Treatment of Fibroids." There was a dis-
cussion by Drs. Jacob Geiger, Daniel Morton, Julius
Kangisser, Paul S. Forgrave, C. A. Good and H. J.
Ravold; Dr. Conrad, closing.

Dr. G. T. Bloomer, St. Joseph, addressed the
members on "Sodium Amytal Anesthesia." This
subject was discussed by Drs. W. L. Kenney, W. C.
Proud, W. T. Stacy, H. S. Conrad, Jacob Geiger,
Daniel Morton, E. M. Shores and S. E. Senor; Dr.
Bloomer, closing.

Dr. John B. Reynolds, St. Joseph, extended an in-
vitation to the members to participate in the celebra-
tion of his fiftieth year in the practice of medicine
at a dinner to be given at his residence on March 2.
The invitation was accepted.

Meeting of March 2

The president, Dr. A. E. Burgher, St. Joseph,
called the meeting to order in the St. Francis Hotel.
Preceding the meeting a dinner was given the mem-
bers by Dr. Jacob Geiger, St. Joseph, in celebration
of his sixtieth anniversary in the practice of
medicine. Dr. John C. Whitsell, St. Joseph, acted
as toastmaster and called upon Rabbi M. Meyer to
make the principal address of the evening. Short
talks were made by Drs. W. T. Elam, W. L. Ken-
ney, J. H. Sampson, H. S. Carle, C. A. Good, Leroi
Beck, Floyd Spencer, J. M. Bell, H. J. Ravold, H.
DeLamater, Caryl Potter, S. E. Senor, G. A. Lau
and J. P. Standley.

The Society adopted the following resolutions on
the death of Dr. James W. Heddens, a former mem-
ber who recently died in Pasadena, California:

WHEREAS, It has pleased Almighty God in His divine wis-
dom to call our former colleague, Doctor James Weir Hed-
dens, of Pasadena, California, from his early labors to his
heavenly reward, and

WHEREAS, The medical profession has thereby lost one of
its most brilliant, capable, respected, honored and faithful
members, and

WHEREAS, Knowing full well his devotion to his profession and to his life's work, and among the sick and suffering of this and his adopted city, and

WHEREAS, The Buchanan County Medical Society, of which he was a former earnest, sincere and loyal member, realizes with profound sorrow that his passing was an irreparable loss to the entire profession and especially to this Society, therefore he it

Resolved, That the Buchanan County Medical Society extends to the widow and the surviving members of his family its deep and sincere sympathy in their bereavement for the loss that they, the profession and humanity at large, has suffered, and be it further

Resolved, That a copy of these resolutions be spread upon the minutes of this Society and that the original be sent to the sorrowing family.

W. T. ELAM, M.D.
JACOB GEIGER, M.D.
C. H. WALLACE, M.D.

EMMETT F. COOK, M.D., Secretary.

CALDWELL-LIVINGSTON COUNTY MEDICAL SOCIETY

The March 16 meeting of the Caldwell-Livingston County Medical Society convened in the Chillicothe high school auditorium, Chillicothe, at 2:45 p. m. The secretary presided in the absence of the president, Dr. C. H. Wilbur, Polo. Dr. R. L. Sutton, Kansas City, noted author, explorer and dermatologist, was our guest speaker.

Dr. Sutton demonstrated a series of cases presented by the members. The cases consisted of acne vulgaris, allergic dermatitis, psoriasis, lichen annularis, pityriasis rosea and seborrheic dermatitis. These cases were thoroughly discussed and a great deal of good advice was garnered from Dr. Sutton's talk.

At 6 p. m. the members enjoyed a dinner given by the Chillicothe Hospital in honor of Dr. R. L. Sutton, our distinguished visitor. A very enjoyable time was had and the members were indeed glad to dispense with the usual topics of a medical dinner in favor of listening to the experiences of Dr. Sutton in Africa.

On motion of Dr. G. S. Dowell, Braymer, seconded by Dr. R. J. Brennan, Chillicothe, the members gave a vote of thanks to the hospital for the banquet.

An open meeting was held in the high school auditorium at 7:45 p. m. to which the public had been invited to hear Dr. Sutton's travel lecture entitled "The Long Trek," or around the world with camera and rifle. The speaker was introduced by Dr. D. M. Dowell who spoke of the pride that the State of Missouri and the medical profession generally held toward the distinguished speaker. Dr. Sutton showed over 400 lantern slides of scenes in Africa. The audience of 1200 was held enraptured throughout Dr. Sutton's lecture.

The Society feels greatly indebted to Dr. Sutton for this lecture.

Members present: R. Barney, R. J. Brennan, D. M. Dowell, C. M. Grace, H. M. Grace and J. H. Timberman, of Chillicothe; G. S. Dowell and H. H. Patterson, of Braymer; and G. W. Carpenter, Utica. Guests: Drs. R. M. Gordon, Kidder; P. L. Patrick, Marceline; J. L. Cantwell, Bucklin, and H. S. Dowell, Chillicothe.

D. M. DOWELL, M.D., Secretary.

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY

The recently elected officers of Cape Girardeau County Medical Society are: President, Dr. W. H. Wescoat, Cape Girardeau; secretary, Dr. M. H. Shelby, Cape Girardeau.

B. W. HAYS, M.D.

CASS COUNTY MEDICAL SOCIETY

The Cass County Medical Society met in regular session in the office of Dr. M. P. Overholser, Harrisonville, March 10, at 7 p. m. The president, Dr. B. O. Hartwell, Drexel, presided.

The program consisted of a symposium on lobar pneumonia as follows:

"The Etiology and Diagnosis of Lobar Pneumonia," Dr. William Beckman, Strasburg.

"Treatment of Lobar Pneumonia," Dr. J. S. Triplett, Harrisonville.

Dr. Overholser was the leader of a very thorough discussion of the above papers. Drs. B. O. Hartwell and A. R. Elder also participated.

On vote Dr. H. S. Crawford, Kansas City, formerly of Harrisonville, was elected an Honor Member in recognition of his long and valuable service to the Society.

J. S. TRIPLETT, M.D., Secretary pro tem.

GREENE COUNTY MEDICAL SOCIETY

Meeting of February 26

The Greene County Medical Society met in the Springfield Public Library, Friday evening, February 26, with fifteen members present. The program consisted of reports of cases as follows:

"Prolapse of Vagina and Cystocele Following Sub-total Hysterectomy," Dr. Don H. Silsby, Springfield.

"A Case of Asthma," Dr. L. R. Webb, Springfield.

"A Case of Ruptured Ectopic Pregnancy," Dr. Henry F. Knabb, Springfield.

The meeting adjourned at 9:30 p. m.

Meeting of March 11

The meeting was called to order by the president, Dr. U. J. Busiek, Springfield, with twenty-four members and two visitors present.

Dr. William W. Graves, St. Louis, was the guest speaker and read an excellent paper on "The Relations of Health, Disease and Education." His subject was illustrated with lantern slides.

After a lengthy discussion the meeting adjourned at 9:45 p. m.

Meeting of April 8

The April 8 meeting was held in the Springfield Public Library with the president, Dr. U. J. Busiek, Springfield, presiding. There were thirty-two members present. Dr. C. E. Burford, St. Louis, was our guest.

The scientific program was furnished by Dr. Burford who addressed the members on "The Diagnosis and Management of Stone in the Kidney and Ureter."

The meeting adjourned at 10 p. m.

J. NEWTON WAKEMAN, M.D., Secretary.

HOWELL-OREGON-TEXAS COUNTY MEDICAL SOCIETY

The Howell-Oregon-Texas County Medical Society has elected Dr. H. A. Thompson, Lanton, president for 1932 and Dr. A. H. Thornburgh, West Plains, secretary.

A. H. THORNBURGH, M.D., Secretary.

JASPER COUNTY MEDICAL SOCIETY

Meeting of March 15

The meeting of the Jasper County Medical Society at Joplin, March 15, was presided over by the president, Dr. Jesse Douglass, Webb City. Seven-

teen members and six visitors were present. Dr. Fred Irwig, Kansas City, was our guest.

The secretary read an announcement from the Ottawa County (Oklahoma) Medical Society relative to the postgraduate course in diagnosis to be held at Miami the afternoon and evening of March 21 by the members of the staff of Cleveland Clinic. Several members indicated their intention of attending.

On motion, seconded and carried, the secretary was instructed to send flowers to Drs. U. G. Hoshaw and H. A. Leaming who are ill.

Dr. Fred Irwig, Kansas City, read an excellent paper on "Allergic Manifestations in Hay-Fever, Asthma, Gastro-Intestinal Disturbances and Migraine." He gave a very practical presentation of this large subject as evidenced by the general discussion which followed.

Meeting of April 12

Thirty-two members and sixteen visitors were present at this meeting. The board of censors reported favorably on the application of Dr. James A. O'Brien, Joplin, and he was unanimously elected a member.

The secretary read a communication from the St. Louis Clinics announcing clinics to be held in St. Louis from May 16 to May 27 inclusive. A "thank-you" note from Dr. H. A. Leaming for the flowers sent him during his recent illness was read.

The secretary called attention to the meeting of the State Dental Association at Joplin May 17 and 18. On motion of Dr. L. C. Chenoweth, seconded by Dr. Ed. James, and carried, the secretary was instructed to notify the president of the dental society that our members will cooperate in any way to insure the success of the meeting.

The meeting was then turned over to our Kansas City guests, Drs. Harold P. Kuhn and F. C. Helwig, who furnished the scientific program under the auspices of the Postgraduate Committee of the State Association. They gave an informal discussion of a gallbladder-liver syndrome with especial reference to cholecystitis, hepatitis and nephritis. Dr. Kuhn described the clinical syndrome and Dr. Helwig discussed the pathological findings which he illustrated by lantern slides of microscopic tissues. Dr. Kuhn then outlined some therapeutic measures and Dr. Helwig told of some animal experimental work with crushing injuries to the liver in an effort to reproduce the findings.

A number of our members discussed the subject and all present felt that they had listened to a stimulating and educational program.

O. T. BLANKE, M.D., Secretary.

JOHNSON COUNTY MEDICAL SOCIETY

The Johnson County Medical Society met in regular session at the Warrensburg Clinic, Wednesday, March 9, at 7:30 p. m., with Dr. R. F. McKinney, Warrensburg, presiding. The guests of the Society were Drs. Paul C. Schnobelen, Llewellyn Sale and J. P. Costello, of St. Louis, who presented a symposium on pneumonia under the auspices of the Postgraduate Committee of the State Association.

Dr. Schnobelen discussed "The Correlation of the Clinical and Roentgenological Findings in the Diagnosis of Pneumonia in the Adult and the Child." His talk was illustrated with roentgen ray films of the various pneumonic classifications and stages of the disease.

Dr. Sale addressed the members on "The Treatment of Pneumonia in the Adult."

Dr. Costello completed the symposium with a lecture on "The Treatment of Pneumonia in Children."

The entire subject with its many phases was given complete consideration. In the light of present-day knowledge these speakers cast many illuminating rays upon a disease which the physicians have always found to be responsible for many gloomy shadows in practice.

The Society wishes to express its gratitude to the physicians who gave their time and talent to the extension and dissemination of scientific medicine, also to our amiable and most gracious Secretary, Dr. E. J. Goodwin, and Dr. C. H. Neilson, Chairman of the Postgraduate Committee of the State Association, for sending the speakers to us.

Our out-of-town visitors were Drs. A. J. Chalkley and C. T. Ryland, of Lexington; R. C. Schooley and W. E. Martin, of Odessa; E. L. Johnson, Concordia; Victor Lookingof, a student at Rush Medical College, and Drs. G. G. Hopkins, A. M. Caylon and C. J. Frost, dentists. The following members were present: Drs. James I. Anderson, John T. Anderson, T. J. Draper, O. B. Hall, W. E. Johnson, R. F. McKinney, H. F. Parker, W. R. Patterson, John A. Powers and L. J. Schofield, of Warrensburg; Drs. S. A. Murray and W. G. Thompson, of Holden.

O. B. HALL, M.D., Secretary.

LAFAYETTE COUNTY MEDICAL SOCIETY

The Lafayette County Medical Society met in Concordia, March 22, with President Odus Liston, Oak Grove, in the chair. The following members were present: Drs. E. L. Johnston, Edmund Lissack, and F. M. Shryman, of Concordia; W. E. Martin and R. C. Schooley, of Odessa; W. A. Braecklein, J. De Voine Guyot and W. E. Koppenbrink, of Higginsville. Drs. J. T. Anderson, O. B. Hall, W. R. Patterson and L. J. Schofield, of Warrensburg, representing the Johnson County Medical Society, were our guests.

Dr. E. L. Johnston, Concordia, read an interesting paper on "Impotence in the Male," which was well presented and brought out much discussion.

J. DE VOINE GUYOT, M.D., Reporter

NODAWAY COUNTY MEDICAL SOCIETY

The Nodaway County Medical Society met in regular session at the Sisters of St. Francis Hospital, Maryville, April 8. In the absence of the president, Dr. William M. Hindman, who is confined to his home in Burlington Junction following a severe hemorrhage from a tumor of a lung, the meeting was called to order by vice president Robert C. Person, Maryville, at 7:45 p. m. The following members were present: Drs. R. B. Bridgeman, Jr., and Charles W. Kirk, of Hopkins; Drs. C. T. Bell, J. A. Bloomer, K. C. Cummins, L. E. Dean, C. V. Martin, R. C. Person and William Wallis, Jr., of Maryville, and Dr. Chas. D. Humbert, Barnard. Drs. Earl Braniger and E. L. Enis, dentists, and Dr. Hiram Day, of Maryville, and several Sisters of the hospital staff were visitors. Drs. Arthur N. Altringer and John R. Coryell, of Kansas City, were our guests having been sent to us through the courtesy of the Postgraduate Committee of the State Association.

The committee of censors appointed at the March meeting reported favorably on the application of Dr. Hiram Day, Maryville, and he was elected to membership.

Dr. William Wallis, Jr., moved that a committee be appointed to express the sympathy of the Society to Mrs. Margaret Hyde Hopkins, for the loss of her son Dr. John William Hopkins who died on April 8. Dr. Hopkins, a recent graduate in medicine, had come to Maryville a few weeks ago as instructor in physical education at the Northwest Missouri State Teachers College. The motion was seconded by Dr. L. E. Dean and carried. The chairman appointed Drs. L. E. Dean, C. T. Bell, and K. C. Cummins as the committee.

At the request of the chairman, Dr. C. T. Bell discussed the malady which has lately struck down our president. About a month ago Dr. Hindman noticed slight and vague pains in his right arm and leg followed by a rapid enlargement of the lymphatic glands in his extremities and in the neck. Three weeks ago, while seated in his car in front of the hospital, he suffered a severe hemorrhage from the lung. This exsanguination was followed by a period of delirium which was at first very marked but is now lessening. Roentgen ray examinations of Dr. Hindman's chest disclose a large tumor in the left lung with many metastases in the mediastinum. Dr. Hindman was taken to the Mayo Clinic last week, but was returned home a few days ago with a hopeless prognosis.

The secretary was instructed to send flowers to Dr. Hindman. Dr. R. C. Person stated that Dr. Hindman had extended an invitation to all our members to visit him and had expressed a hope that they would call to see him whenever and as often as possible.

Dr. Arthur N. Altringer presented an excellent essay on "The Significance of Tonsils and Adenoids." His ideas are conservative and he gave much attention to practical points and answered many questions asked by the audience.

Dr. John R. Coryell read a well-prepared paper on "Ureteral Stone." He reviewed the etiology, symptoms and diagnosis, and gave his own routine of treatment. His paper provoked much discussion.

The meeting adjourned at 10:20 p. m.

CHAS. D. HUMBERD, M.D., Secretary.

SCHUYLER COUNTY MEDICAL SOCIETY

The Schuyler County Medical Society met in the office of Dr. Ida M. Nulton, Lancaster, April 13. The meeting was called to order at 4 p. m. by the president, Dr. Nulton, with the following members present: Drs. J. B. Bridges and H. E. Gerwig, of Downing; A. J. Drake, J. H. Keller and Ida M. Nulton, of Lancaster.

The election of officers for 1932 resulted in the following being elected: President, Dr. Ida M. Nulton, Lancaster; vice president, Dr. J. H. Keller, Lancaster; secretary-treasurer, Dr. J. B. Bridges, Downing; delegate to State Meeting, Dr. H. E. Gerwig, Downing; alternate delegate, Dr. A. J. Drake, Lancaster.

A number of interesting case reports were given. The next meeting will be held in July.

J. B. BRIDGES, M.D., Secretary.

ST. LOUIS COUNTY MEDICAL SOCIETY

The St. Louis County Medical Society held its regular meeting at the St. Louis County Hospital, Wednesday afternoon, April 13. There were twenty-two members and visitors present.

Dr. O. P. Hampton, Jr., University City, read an interesting paper on "Spinal Anesthesia."

Dr. Bransford Lewis, St. Louis, gave a lecture on "Regurgitation Renal Colic," a new clinical entity. He reported numerous cases and outlined a definite treatment for the condition which simulates renal calculi in its clinical manifestations.

FENTON J. PETERSEN, M.D., Secretary.

VERNON-CEDAR-BATES COUNTY MEDICAL ASSOCIATION

The Vernon-Cedar-Bates County Medical Association met at State Hospital No. 3, Nevada, March 16, at 7:30 p. m. The guests of the Society were Drs. H. P. Boughnou and E. Lee Miller, of Kansas City.

Dr. Boughnou addressed the members on "Acute Respiratory Diseases."

Dr. Miller read an interesting paper on "Carcinoma of the Rectum," illustrated with lantern slides.

L. L. COOPER, M.D., Secretary.

WOMAN'S AUXILIARY

ORGANIZED COUNTIES AND PRESIDENTS

COUNTY	PRESIDENT AND ADDRESS
Bates.....	Mrs. C. W. Luter, Butler
Boone.....	Mrs. E. D. Baskett, Columbia
Buchanan.....	Mrs. H. W. Carle, St. Joseph
Cass.....	Mrs. H. A. Brierly, Peculiar
Cape Girardeau.....	Mrs. N. F. Chostner, Cape Girardeau
Clay.....	Mrs. O. S. Wilfley, Excelsior Springs
Cole.....	Mrs. Stanley Howard, Jefferson City
Gentry.....	Mrs. W. T. Martin, Albany
Greene.....	Mrs. J. P. McCann, Springfield
Jackson.....	Mrs. Ralph Holbrook, Kansas City
Jasper.....	Mrs. J. A. Chenoweth, Joplin
Johnson.....	Mrs. H. F. Parker, Warrensburg
Lafayette.....	Mrs. E. S. Johnston, Concordia
Linn.....	Mrs. O. Putnam, Marcelline
Livingston.....	Mrs. Reuben Barney, Chillicothe
Randolph-Monroe....	Mrs. Jesse Maddox, Moberly
Saline.....	Mrs. L. S. James, Blackburn
St. Louis City.....	Mrs. Francis Reder, St. Louis
Vernon-Cedar.....	Mrs. T. B. Todd, Nevada

WOMAN'S AUXILIARY, MISSOURI STATE MEDICAL ASSOCIATION, EIGHTH ANNUAL MEETING

Officers 1931-1932

President, Mrs. U. J. Busiek, Springfield.

President-Elect, Mrs. David S. Long, Harrisonville.

1st Vice President, Mrs. Ralph W. Holbrook, Kansas City.

2nd Vice President, Mrs. R. S. Kieffer, St. Louis.

3rd Vice President, Mrs. H. M. Grace, Chillicothe.

4th Vice President, Mrs. W. T. Martin, Albany.

Corresponding Secretary, Mrs. F. T. H'Doubler, Springfield.

Recording Secretary, Mrs. J. A. Chenoweth, Joplin.

Treasurer, Mrs. L. S. James, Blackburn.

Auditor, Mrs. J. J. Gaines, Excelsior Springs.

Directors (2 years): Mrs. George Ruddell, St. Louis; Mrs. G. B. Schulz, Cape Girardeau; Mrs. S. P. Howard, Jefferson City; Mrs. H. W. Carle, St. Joseph; Mrs. L. H. Callaway, Nevada. (1 year): Mrs. C. B. Summers, Kansas City; Mrs. J. D. Guyot, Higginsville; Mrs. D. A. Barnhart, Huntsville; Mrs. John A. Powers, Warrensburg; Mrs. P. L. Patrick, Marcelline.

PROGRAM

Monday, May 23, 1932—Mezzanine, Missouri Hotel

Registration.

2:00 P. M.—Round-Table Conference.

Messages from National Convention.

1. County Auxiliary Programs and Yearbooks.

2. Public Relations.

3. Hygeia.

4. Periodic Health Examinations.

5. History and Archives.

6:30 P. M.—Informal Dinner, Missouri Hotel.

Tuesday, May 24, 1932—Junior College

Registration.

9:00 A. M.—Executive Board Meeting.

12:30 P. M.—Open Luncheon at Petit's, 130 E. McCarty Street, Mrs. S. P. Howard, President of Cole County Auxiliary, presiding.

Invocation.

Guests: Governor Henry S. Caulfield, Jefferson City; Dr. Edward H. Cary, Dallas, President-Elect of the American Medical Association; Dr. Frank Harrison, Mexico, President of the Missouri State Medical Association; Dr. Joseph W. Love, Springfield, President-Elect of the Missouri State Medical Association; Dr. W. A. Clark, Jefferson City, President of the Cole County Medical Society, and Dr. E. J. Goodwin, St. Louis, Secretary-Editor of the Missouri State Medical Association.

3:00 P. M.—Reports of County Presidents.

4:00 P. M.—Tea at the home of Mrs. Frank W. Gillham, 510 Jackson Street.

8:00 P. M.—Open Meeting of the Missouri State Medical Association.

Wednesday, May 25, 1932—Junior College

Registration.

9:00 A. M.—General Meeting, Open Session, Mrs. U. J. Busiek, President, presiding.

Song.

Invocation.

In Memoriam.

Address of Welcome.

Response.

Report of Chairman of Credentials and Registration.

Roll Call of Counties.

Minutes of Seventh Annual Meeting.

Reports of State Officers.

Reports of Standing Committees.

Report of Resolutions Committee.

Report of Nominating Committee.

Election of Officers.

12:30 P. M.—Open Luncheon at the Country Club honoring the incoming President, Mrs. U. J. Busiek, President, presiding.

Invocation.

Address of President.

Introduction of New Officers.

3:00 P. M.—New Executive Board Meeting.

4:00 P. M.—Drive and visit to the Capitol.

7:00 P. M.—Open Dinner, Missouri Hotel, Mrs. David S. Long, presiding.

Excerpts from second annual *Chauve Souri* given by St. Louis Auxiliary.

Vocal Solos by Dr. Victor Sherman accompanied by Dr. Jerome I. Simon.

Piano Solo: Popular Medley by Dr. Jerome I. Simon.

Dramatic Act, "The Diagnosis."

Indian Songs in Costume by Mrs. Edward Meisenbach.

BUCHANAN COUNTY AUXILIARY

The Buchanan County Auxiliary entertained Mrs. William J. Freeman, Philadelphia, president-elect of the Woman's Auxiliary to the American Medical Association, at St. Joseph, March 10. A Dutch treat luncheon was given Thursday noon at the Book and Bowl. At this luncheon Mrs. Freeman spoke of the plans for the meeting of the national auxiliary at New Orleans May 9 to 13. A reception followed the luncheon. Among the guests were Mrs. David S. Long, Harrisonville, president-elect of the State Auxiliary, and Mrs. M. P. Overholser, Harrisonville.

JACKSON COUNTY AUXILIARY

Mrs. George H. Hoxie, Kansas City, gave a luncheon on Friday, March 11, in honor of Mrs. William J. Freeman, Philadelphia, president-elect of the Woman's Auxiliary to the American Medical Association, and Mrs. A. B. McGlothlan, St. Joseph, president of the National Auxiliary. On Thursday afternoon Mrs. A. W. McAlester and Mrs. Ralph Holbrook gave a tea in honor of the guests, and on Friday afternoon they were entertained at tea by the Jackson County Medical Society.

LAFAYETTE COUNTY AUXILIARY

The Woman's Auxiliary to the Johnson County Medical Society met at the home of Mrs. E. L. Johnston, Concordia, March 22, with eleven members and guests present. The members of the Johnson County Auxiliary are attending the meetings of Lafayette County Auxiliary, and vice versa, and the spirit of cooperation is proving very profitable.

ST. LOUIS CITY AUXILIARY

Mrs. Walter J. Freeman, Philadelphia, president-elect of the National Auxiliary to the American Medical Association, was the guest of honor at a tea given by the St. Louis Auxiliary on March 1 at the Medical Society building. Mrs. George Ruddell and Mrs. Roland S. Kieffer presided.

Mrs. Freeman, in her interesting and entertaining manner, spoke with enthusiasm of the work being carried on by the Philadelphia organization as well as auxiliaries in other sections of the country. It was a great pleasure to have had the opportunity of meeting Mrs. Freeman.

Mrs. George N. Seidlitz entertained Mrs. Freeman and members of the state board at luncheon preceding the meeting.

Mrs. A. B. McGlothlan, St. Joseph, president of the Woman's Auxiliary to the American Medical Association, was the guest of honor at a luncheon given by the St. Louis Auxiliary on Friday, April 1, at the Medical Society building.

TRUTH ABOUT MEDICINES

LAUB'S QUALITY BREAD (The Jacob Laub Baking Company, Cleveland, Ohio).—A white bread made by the sponge dough method. It is claimed to be a bread of good quality.

The following have been accepted by the Council on Physical Therapy of the American Medical Association for inclusion in its list of Accepted Devices for Physical Therapy:

SWIFT'S PURE TOMATO JUICE (Swift and Company, Packers, Chicago, Ill.).—A pasteurized tomato juice, seasoned with salt. This tomato juice is claimed to be adaptable as an infant food and to be a good source of mineral salts and of vitamins A, B and C. It is also claimed to be a protective food for babies against scurvy.

CROSBY'S BEST FLOUR (Associate companies of General Mills, Inc., Minneapolis, Minn.).—A hard winter wheat patent flour designed for commercial bakers' use; packed in sacks. It is claimed to be a good quality hard winter wheat patent flour designed to meet the requirements of the baking industry for an economical bread flour.

BORCHERT'S MALT SUGAR (Borchardt Malt Extract Company, Chicago).—The product is essentially maltose (87 per cent) obtained by conversion of starch by malt diastase, contains dextrins, proteins, mineral salts, and vitamins B and G. The product is recommended for infant feeding and is claimed to contain vitamins B and G in substantial quantities.

SIMILAC (M & R Dietetic Laboratories, Inc., Columbus, Ohio).—A spray dried reconstructed diet for infants deprived of breast milk; containing sodium, potassium, and calcium caseinates, lactalbumin, milk sugar, salts, and animal and vegetable fats (butter fat, olive oil, coconut oil, cod liver oil). Similac may be fed either as a complement or as a supplement to breast milk or as a diet where breast milk is entirely absent. It is claimed that the modification of the salts of skimmed milk used in the preparation and manufacture of Similac produces a change in the casein of milk which results in the Similac coagulating in a soft, fine, flocculent curd similar to the curd produced when breast milk comes in contact with the gastric juices, thereby enabling the utilization of all food elements contained in Similac.

WHOLE WHEAT FLAKES—WHEATIES—WITH ALL THE BRAN (Gold Medal Foods, Inc., a wholly owned subsidiary of General Mills, Inc., Minneapolis, Minn.).—Toasted whole wheat flakes prepared from cooked wheat with added sucrose, salt and malt syrup. The product is claimed to be a good quality cooked and toasted whole wheat flakes.

MERRELL-SOULE POWDERED LEMON JUICE AND CORN SYRUP (Borden Sales Company, Inc., New York).—A spray-dried mixture of lemon juice and corn syrup. It is claimed to be a good quality powdered lemon juice with corn syrup recommended for the preparation of lemon pies, beverages, and other lemon food preparations. (Jour. A. M. A., October 31, 1931, p. 1302.)

PABST-ETT (Brick Variety) (Pabst Corporation, Milwaukee, Wis.).—A blend of process brick and process American cheese containing disodium and trisodium phosphates as emulsifiers, salt and concentrated milk whey. The product is claimed to contain approximately 280 Sherman vitamin A units per ounce, 46 Sherman-Spohn vitamin B (complex) units per ounce, and determinable amounts of vitamin D. It is recommended for all the uses of ordinary cheese.

ACCEPTED DEVICES FOR PHYSICAL THERAPY

FRICKE-GLASSER X-RAY DOSIMETER.—The Fricke-Glasser X-Ray Dosimeter (or, more properly, quantimeter) is an instrument designed to measure the

quantity and intensity of roentgen rays and is calibrated in international roentgens. The instrument consists of a small ionization chamber and a string electrometer connected to each other by means of a rigid metal tube filled with ceresin and a flexible metal tube. The instrument can be mounted on a table and can thus easily be moved from one treatment room to another. The manufacturers claim that the error in accuracy does not exceed 1 per cent. The ionization chamber is intended to be placed directly on the patient in the field of irradiation. Victoreen Instrument Company, Cleveland, Ohio. (Jour. A. M. A., September 12, 1931, p. 729.)

EVEREADY SOLARIUM TYPE CARBON ARC LAMP.—It is designed to administer therapeutic light treatment simultaneously to groups of patients. The lamp is designed to be attached to the ceiling. The length of the unit is approximately 3 feet and the width and depth depend on the number of units included in each lamp. It is claimed that the lamp provides a source of therapeutic artificial sunlight for group irradiation, the ultraviolet content being much richer than that of natural sunlight. National Carbon Company, Inc., Cleveland, Ohio. (Jour. A. M. A., August 22, 1931, p. 541.)

EVEREADY PROFESSIONAL MODEL CARBON ARC LAMP.—It is designed for general radiation therapy in physicians' offices or clinics. The lamp is mounted on a large rugged stand, equipped with rubber wheeled, ball bearing casters which permit the lamp to be moved easily over the floor. The Professional Model is designed to operate on 115 volt, 60 cycle, alternating current circuit through a standard outlet (base plug or wall plug). The lamp is claimed to offer three distinct types of therapeutic radiation; namely, infra-red, visible, and ultraviolet. National Carbon Company, Inc., Cleveland, Ohio. (Jour. A. M. A., August 15, 1931, p. 462.)

VICTOREEN R-METER.—The Victoreen r-meter is an instrument designed to determine rapidly the intensity of roentgen rays at any point in roentgens per minute. The instrument consists of a small ionization chamber rigidly connected to a string electrometer by means of a metallic tube. It is supplied in four scale values, 0-5, 0-10, 0-25, 0-50 roentgens, the total value depending on the range of intensities to be measured. The construction of the apparatus includes shielding from extraneous rays, and the apparatus may be used with any quality of roentgen radiation from 30 peak kilovolts upward. Victoreen Instrument Company, Cleveland, Ohio.

PROPAGANDA FOR REFORM

SILVER NITRATE AMPULES AND CAPSULES.—The A. M. A. Chemical Laboratory undertook an investigation of silver nitrate capsules and ampules to determine whether the market supply was satisfactory. The Laboratory found that the various brands of silver nitrate ampules contained in both wax and glass ampules showed that the strength of the silver nitrate solution is generally somewhat greater than the amount claimed and that practically none of the silver is absorbed by the wax ampule. The quantity of solution found in the glass ampules complied with that claimed. On the other hand, in the wax ampules not only did the quantity of solution vary with each brand, but the products of the various firms differed markedly, ranging from 0.07 c.c. to as high as 0.26 c.c. The Laboratory points to the possible danger from fragments of glass which may

form when the glass ampule is opened and which may reach the infant's eye when the silver solution is instilled. The Council on Pharmacy and Chemistry considered the report of the Laboratory and authorized its publication. In recommending endorsement and publication of the report the Council's referee expressed gratification at the reassurance given by the report that the wax capsules do not inactivate the silver nitrate and called attention to the fact that the use of glass ampules may be an open invitation to accident. (Jour. A. M. A., September 5, 1931, p. 706.)

NEW AND NONOFFICIAL REMEDIES.—There is no better way of keeping up to date on the newer remedies than to follow the work of a competent, unbiased group of scientific investigators, working altruistically in the interest of the medical profession. The Council on Pharmacy and Chemistry is such a group. New and Nonofficial Remedies is its list of accepted products. The book is published annually and describes accepted articles and includes facts the physician should know. It keeps physicians up to date regarding the newest remedies. It advises physicians of products not worthy of his attention. It is useful to the physician when he is importuned by the detail man to prescribe a new specialty. (Jour. A. M. A., September 5, 1931, p. 707.)

MISBRANDED "PATENT MEDICINES."—The following products have been the subject of prosecution by the Food and Drug Administration of the United States Department of Agriculture which enforces the Federal Food and Drug Act: Sakula Salve (The Yamato Co., Inc.), consisting essentially of fat, wax, rosin and camphor. Zarpas Ointment (Nick Zarpas), containing camphor, sulphur, ground black mustard and red pepper. Anti-Flamma Plaster (Bayles Distributing Co.), containing red lead and linseed oil. Witmer's Coughine (National Drug Co., Cardin, Okla.), consisting essentially of small amounts of ammonium chloride, creosote, guaiacol, camphor, chloroform, sugar and water. Acotin (J. R. Watkins Co.), tablets containing phenacetine (acetphenetidin), aspirin (acetylsalicylic acid) and starch. Emerson's Honduras Sarsaparilla (Emerson Medicine Co.), consisting essentially of extracts of plant drugs, including a laxative, traces of salicylic acid, alkaloids, glucosides and potassium iodide, alcohol and water. Ponca Compound (Mellier Drug Co.), tablets containing baking soda, sulphur and plant extractives. Kaufmann's Sulphur Bitters (A. P. Ordway & Co.), consisting essentially of extracts of plant drugs, including aloe, podophyllum and a bitter drug, such as gentian, a very small amount of sulphur in alcohol and water. Torb (Crystal Chemical Co.), an ointment with a petrolatum base, mineral matter such as clay, and a small amount of boric acid. Chumuckla Mineral Water (Chumuckla Spring Co.), containing filthy and putrid animal and vegetable substance. Anti-Uric (The Anti-Uric Co.), consisting essentially of extracts of plant drugs, traces of formaldehyde, volatile oils, alcohol and water. Hot Springs Improved Sarsaparilla Compound (Lauber and Lauber Co.), consisting essentially of potassium iodide, Rochelle salt, a small amount of benzoic acid, a laxative plant drug, alcohol, sugar and water flavored with oils of sassafras and wintergreen. Speedy Laxative Cold Tablets (B. C. Leo & Co.), containing acetanilid, a small amount of cinchona alkaloids, a laxative plant drug, and red pepper. Hailperin's Antiseptic Healing Ointment (Manhattan Drug Co.), containing

petrolatum, wax and a wool-fat base, zinc oxide, boric acid, carbolic acid, sulphur, menthol and camphor. (Jour. A. M. A.)

FRENLY ENEMA CREAM—Not Acceptable for N. N. R.—Frenly Enema Cream (Frenly Products, Inc., New York City) is offered to physicians without a statement of composition either on the label or in the advertising. In the information furnished the Council on Pharmacy and Chemistry the preparation was stated to have the following composition: "Powdered Acacia $\frac{1}{2}$ oz., Powdered Tragacanth $\frac{1}{4}$ oz., Castor Oil 6 ozs., Glycerin 1 oz., Sodium Iodide 40 grains, Menthol 20 grains, Alcohol 95% 1 Dram, Ichthol 2 Drams, Benzoate of Soda .2%, Water q.s. ad 20 ozs." The Council found Frenly Enema Cream unacceptable for New and Nonofficial Remedies because it is a complex, unscientific mixture which is marketed under a name that is uninforming as to composition and is therapeutically suggestive and with claims that are unwarranted. (Jour. A. M. A., September 19, 1931, p. 852.)

"MINERALOGEN"—Not Acceptable for N. N. R.—Under the name "Mineralogen" Von Bremen-AschedeBruyn, New York, offers a mixture stated to contain, in 100 parts: "Calcium phosphate, 25.61; Calcium lactate, 49.250; Magnesium sulphate, 2.956; Sodium sulphate, 3.450; Bismuth subnitrate, 1.725; Strontium lactate, 1.477; Sodium bromide, 7.88; Sodium silicate, 1.477; Alum ust., 0.736; Albumin leviss., 5.439." The therapeutic indications for "Mineralogen" are stated to be chiefly: "In the Gerson-Herrmannsdorfer-Sauerbruch dietetic treatment of skin tuberculosis, Tb. fungosa, scrofuloderma, tuberculosis of bones, glands, mucosa, kidneys and bladder, pulmonary tuberculosis and in the dietetic preoperative and postoperative treatment of pulmonary tuberculosis." "Mineralogen" is part and parcel of the Gerson-Herrmannsdorfer-Sauerbruch dietetic treatment of tuberculosis. The Council on Pharmacy and Chemistry found Mineralogen unacceptable for New and Nonofficial Remedies. (Jour. A. M. A., September 19, 1931, p. 852.)

ALBUTESTA.—When a well-known substance is marketed with a proprietary name, hiding its real identity and masquerading as a unique reagent, it is time for the forces which the physician has created to safeguard himself to report the truth to him. The A. M. A. Chemical Laboratory has done this by reporting on Albutesta (Menley and James, Ltd.). The Laboratory found Albutesta to be a twenty per cent solution of sulphosalicylic acid. It is not new; just an old reagent with a new name at a fancy price. The Laboratory contends that the composition of diagnostic reagents should be known so that users may know the limitations. (Jour. A. M. A., September 19, 1931, p. 852.)

STREPTOCOLL—Not Acceptable for N. N. R.—Streptocoll (The Soshokee Co., East Orange, N. J.) was presented to the Council on Pharmacy and Chemistry as "a very active form of colloidal sulphur which differs from all other colloids of sulphur in that it contains no protective colloid." The preparation was proposed for oral and intravenous use in a variety of conditions. The Council found Streptocoll unacceptable for New and Nonofficial Remedies because the name Streptocoll is uninforming and therapeutically suggestive and because the composition of the product is indefinite and the therapeutic claims unwarranted. (Jour. A. M. A., September 19, 1931, p. 853.)

OLAJEN—Not Acceptable for N. N. R.—The Council on Pharmacy and Chemistry reports that Olajen (marketed by Olajen, Inc., New York City) is advertised as "Olajen Colloidal" a "preparation which utilizes a vehicle of novel form to combine calcium and other physiologic salts with lecithin in a colloidal base rendering its ingredients immediately assimilable after oral administration"; the preparation being said to be indicated in treatment "when the normal calcium is low, when the patient is undernourished, when bodily resistance must be raised, and when bronchial affections hang on and sap vitality." The Council declared "Olajen" unacceptable for New and Nonofficial Remedies.

HAYNER'S NORMALINE—Not Acceptable for N. N. R.—The Council on Pharmacy and Chemistry reports that Hayner's Normaline, according to the trade package, is "The Formaldehyde-Chlorine Germicide and Deodorant," and that this statement does not declare the amount of formaldehyde; does not declare the presence or amount of zinc chloride; and is misleading in that it suggests the presence of active chlorine in the product. The advertising submitted to the Council by the Norman C. Hayner Company contained no quantitative statement of the composition of the product. In the information furnished the Council the statement was made that the preparation is a "combination of Chloride of Zinc, 40 volume formaldehyde, perfume" but the amount of formaldehyde and of zinc chloride in a given quantity of the preparation is not declared. The Council declared Hayner's Normaline an unoriginal preparation of formaldehyde and zinc chloride which is marketed under a noninforming name without a quantitative statement of composition on the label or in the advertising and with claims that are unwarranted and misleading. (Jour. A. M. A., September 26, 1931, p. 931.)

FROM N. N. R. TO THE U. S. P.—Of the forty new products in the United States Pharmacopeia X, thirty-one came from New and Nonofficial Remedies. No better recommendation can be given for "N. N. R." (Jour. A. M. A., September 26, 1931, p. 931.)

USE OF CINCHOPEN AND NEOCINCHOPEN.—In consideration of reports of untoward effects, it would be well to discontinue the use of cinchopen and to substitute neocinchopen for it. Even though neocinchopen owes its activity to cinchopen, it is so slightly soluble as to be almost tasteless, devoid of irritant action on the stomach, and of remarkably low toxicity. If cinchopen is prescribed it should be under its pharmacopeial name and not as "Atophan," which is more expensive and is marketed with unwarranted claims. If Neocinchopen is wanted it should be prescribed under this name and not under the uninforming designation "Tolysin." In view of the serious though rare poisoning from ordinary doses of cinchopen, the use of this drug should be restricted as much as possible to cases in which other non-narcotic analgetics, such as salicylates, acetylsalicylic acid or amidopyrine, have been tried and failed to give adequate relief, and in which the suffering is sufficiently great to justify the risk. (Jour. A. M. A., August 8, 1931, p. 409.)

CULTIVATION OF "COMMON COLD" VIRUS.—The growing conviction that "common colds" are not due to any micro-organism thus far included in commercial vaccines, but to an unknown filterable virus or group of viruses, is strengthened by the currently reported successful cultivation of bacteria-free

pathogenic nasal filtrates. The work indicates conclusively that the filterable agent associated with "common colds" multiplies or is multiplied in the embryonic tissue medium. (Jour. A. M. A., August 15, 1931, p. 466.)

BOOK REVIEWS

A CLINICAL STUDY OF THE ABDOMINAL CAVITY AND PERITONEUM. By Edward Meakin Livingston, B.Sc., M.D., Associate Visiting Surgeon, Belleville, N. Y. 372 illustrations. New York: Paul B. Hoeber, Inc. 1932. Price \$15.00.

As everybody knows whose memory reaches into the dim and distant past, or who has had much to do with the recent products of our medical education machines, one has to deal with an important party. The problem of persuading them to accept further mental pabulum is a very delicate one. The dosage must be small and pleasant to take. There is no substance to put into the coffee.

In the attempt to accomplish the further education of the young medic this book comes very close to placing the information into the hypothecated coffee. Some of its chapters appeared as current articles in the *American Journal of Surgery* where they presented an excellently printed, clear, easily read and simply stated array of fundamental facts as clearly as children's blocks, "C is for cat." Of the twenty chapters, twelve appeared serially in *The American Journal of Surgery*, eight chapters being published for the first time in the completed volume.

The possession of this book should be listed as one of the requirements for entrance in an internship in surgery and an examination on it as a prerequisite for the issuance of a certificate of the completion of such residency.

Even "Wise Old Boys" by reading it will be reminded of some things which of course they knew but had momentarily forgotten. A. E. H.

MEDICAL PSYCHOLOGY. The Mental Factor in Disease. By William A. White. New York and Washington: Nervous and Mental Disease Publishing Company. 1931.

This is a book of principles, not of practice. Any medical student or physician who uses it as his introduction to medical psychology will have to read it very carefully and thoughtfully, and perhaps then will find difficulty in applying the principles discussed to individual cases.

The author proposes to furnish the physician the sort of psychology he should have when he steps into the sick room. The underlying assumptions are that mental and physiological processes are but different aspects of the same thing; that in the presence of bodily disease there are characteristic mental changes, and that one sort of manifestation is as worthy of attention as the other. The psychological background is the same whether one is dealing with the well, the physically ill or the mentally ill. The point of view throughout is that of Sigmund Freud, of whom Doctor White is one of the foremost exponents.

The reviewer believes that the average medical student requires enough preliminary psychological knowledge to enable him to estimate the mental status of his patients in the commonly accepted terms, before he can understand what Doctor White is talking about. If he is prepared to read it I know

of no book which will repay so richly. The style is a bit ponderous and complex but the argument is carried along easily by analogies and allusions in the fields of the biological and social sciences. The philosophical reflections are influenced by the revolution in physics which has taken place since 1926 and are distinctly modern.

A principal implication of the book is that psychiatry is not an isolated medical specialty but the matrix in which all of medicine is set. Doctor White goes a long way toward establishing the point.

E. T. G.

MODERN PROCTOLOGY. By Marion C. Pruitt, M.D., L.R.C.P., F.R.C.S., F.A.C.S., Atlanta, Georgia, Associate in Surgery, Emory University School of Medicine; Assistant Visiting Surgeon, Grady Hospital; Proctologist, Crawford W. Long Memorial Hospital and Clinic, Georgia Baptist Hospital, and Anti-Tuberculosis Association, etc. With 233 illustrations. St. Louis: The C. V. Mosby Company. 1931. Price \$8.00.

This book is quite similar to a number of recent books on proctology in that more space is given to the subject of instruments and instrumentation than to pathology. The chapter on megacolon contributes in no way to the general knowledge of this condition and, in the opinion of the reviewer, under the head of "Operative Treatment," certain recommendations are not only misleading but would be disastrous to the patient if followed. The chapter on hemorrhoids is the best chapter in the book, the classifications agreeing with all other classifications. The injection treatment of internal hemorrhoids by Pruitt evidently reflects his own personal opinion and for that reason is of value. He has practiced the injection method and has evidently tried it in all classes of internal hemorrhoids and he reports his results enthusiastically. Throughout the book various authors are quoted largely from the textbooks but references to more comprehensive papers in the literature are lacking.

W. R. R.

RECENT ADVANCES IN PHYSIOLOGY. By C. Lovatt Evans, D.Sc. (Lond.), F.R.C.P., F.R.S., Jodrell Professor of Physiology and Fellow of University College, London. Fourth edition, with 113 illustrations. Philadelphia: P. Blakiston's Son & Co. Price \$3.50.

Among the "Recent Advances Series," none possesses greater excellence than this volume. The book contains two new chapters and all others are thoroughly revised and contain many additions. Outstanding chapters are on the circulation and its regulation, the carotid sinus and its regulation of the circulation, the reaction of the blood, the mechanism of postneural reflexes and the function of the labyrinth, and condition reflexes. The book is full of illustrations and tabulations from the most recent literature; for example, in Chapter I some of the topics discussed are roentgen ray photographs of the coronary circulation, distribution of coronary flow, newer methods of investigation, influences of various chemical and physical factors on the coronary circulation and the nerve control of the coronary circulation. The chapter is terminated by an excellent selection of twenty-four references to the newer literature. In Chapter II, dealing with the part played by the carotid sinus in the regulation of the circulation, attention is called to the newer work on the reflex controls of the heart and vascular system

with special reference to the reflexes of the carotid sinus. The classic new researches of Heymans are fully presented and in Chapter I on the reaction of the blood we find an outstanding summary of recent contributions.

Electric methods, colorimetric methods and indicators in general use are treated. The discussion on the nerve impulse presents the newer methods of the anemometric amplifier employed by Adrian. Outstanding topics are: Analysis of afferent impulses, responses from nerve endings, motor impulse and the all-or-none character of the impulses. The analytical work of Erlanger's laboratory on the compound nature of the action current is carefully summarized. This chapter carries thirty-eight references to the literature.

The last chapter (XII), on the active principles of some endocrine organs, is a brief statement on but scarcely an adequate review of a field which now occupies the attention of a high percentage of physiology investigators.

On the whole, the book presents a very excellent selection of the newest in experimental physiology.

C. W. G.

INJURIES AND SPORT. A General Guide for the Practitioner. By C. B. Heald, C.B.E., M.A., M.D. (Cantab.), M.R.C.P. (Lond.), Physician, with charge of Electro-Therapeutic Department, Royal Free Hospital; etc. Oxford University Press, American Branch, 114 Fifth Avenue, New York. 1931. Price \$8.00.

This is a most interesting volume, very English and showing more ways of falling off a horse than most of us have known.

If there is any unfavorable criticism it is of the special emphasis laid upon electrotherapy, no doubt because Dr. Heald is the specialist in charge of electrotherapeutics in the Royal Free Hospital. One striking feature is the use of electrotherapy for repair or diminution of disability in practically every injury.

The keynote of the whole book is struck in the preface: "The essential fact is that the repair cell is a primitive structure, very nearly akin to the cells which compose the embryo; it therefore requires for its development much the same environment as that provided by the uterus: warmth, stillness, salt water and oxygen. This admittedly speculative argument has at any rate the merit of explaining the practical success of the methods . . . originally quite empirical . . . advocated in this book." Dr. Heald carries out the theory expressed in the preface. Stillness he obtains by proper splints and supports; warmth he derives mainly from one electrical wave or another and the reviewer presumes the salt water and oxygen are obtained from circulation.

Counterirritants in treating sprains or strains of muscles and tendons are not used. Dr. Heald apparently prefers rest, stillness and the internal warmth set up by electric wave or diathermy to liniments and other counterirritants.

There are two special features about the book which impress the reviewer as of considerable value. The first is the two charts on the front and back covers which afford immediate information on references to any given condition and the treatment for it. The second feature is in Appendices 1 and 2, the latter being the more important. This gives a bird's-eye picture of what should be done for various injuries and a few high lights on diagnosis.

Probably the importance of this book is based on the care which the author gives correct diagnosis. This care in diagnosis, the methods of treatment advocated and the excellent surgical procedures recommended make the book one that may be profitably studied. S. C.

A CLINICAL STUDY OF ADDISON'S DISEASE. By Leonard G. Rowntree, M.D., and Albert M. Snell, M.D., Division of Medicine, The Mayo Clinic and The Mayo Foundation, Rochester, Minnesota. Illustrated. Philadelphia and London: W. B. Saunders Company. 1931. Price \$4.00.

This is a masterly and well-written monograph on Addison's disease, with a review of the literature, report of cases, and an outline of the most recent advances in the treatment of this hitherto considered hopeless condition. A. P. M.

TEXTBOOK OF GYNECOLOGY FOR NURSES. By Philip J. Reel, M.D., F.A.C.S., Assistant Professor of Surgery, College of Medicine, Ohio State University, etc. Illustrated with 81 engravings. Philadelphia: F. A. Davis Company. 1932. Price \$2.50.

The subject matter of this book is divided into three parts, viz., anatomy of the genital system, operative and postoperative treatment. At the end of each chapter is appended a list of questions. The book very well fills the need of a gynecology text for nurses. It is printed on a fine grade of paper and the illustrations are numerous and to the point. D. T. V.

NOTES ON CHILDREN'S NURSING. By Marguerite C. Erxleben, R.N., B.S., Director of Instruction, The Children's Hospital of Philadelphia. Illustrated with 43 engravings. Philadelphia: F. A. Davis Company. 1931. Price \$2.00.

This is not a textbook on nursing in diseases of children. It is an outline of the various nursing procedures with a detailed description of the equipment needed. It should be of great value to the nurse as it tells her just what "set up" is needed for gavage, transfusions, chest aspiration, etc., and explains the object of these procedures. It also gives an outline of the care of the patient from the admission desk to the time of discharge, directs attention to all hospital records and explains the importance of nursing care. There are many excellent illustrations and the various infant foods and formulas are described. H. L. D.

LOVETT'S LATERAL CURVATURE OF THE SPINE AND ROUND SHOULDERS. Fifth edition, revised and edited by Frank R. Ober, M.D., Assistant Professor of Orthopedic Surgery Harvard University; Member American Orthopedic Association, and A. H. Brewster, M.D., Instructor of Orthopedic Surgery Harvard University; Member American Orthopedic Association. With two hundred and one illustrations. Philadelphia: P. Blakiston's Son & Co. Price \$3.50.

This book has been rewritten by Dr. Frank R. Ober and Dr. Albert H. Brewster who were long associated with Dr. Lovett in curvature work. They have retained the history of scoliosis which was included in the first edition in 1907. This history is very valuable; I know of no other that is quite so complete.

The theories as to the causes of this condition are discussed and the known etiological factors are carefully described. The predisposing causes are very carefully considered and suggestions made for their prevention.

In the treatment a great amount of detail is given including the management of scoliosis with exercises, the value of exercises combined with braces being emphasized. It is particularly stressed that this plan should be adopted during the growing period. After the growing period operative fusions in certain well-selected cases are advisable.

The book is exceedingly well illustrated and details are given on making plaster casts with the application of the turn buckel attachment.

The book is to be recommended to those who would like to know all that is known about the cause and the treatment of this subject from the beginning of its recognition down to the present time. C. B. F.

SURGICAL PATHOLOGY OF THE FEMALE GENERATIVE ORGANS. By Arthur E. Hertzler, M.D., Surgeon to the Agnes Hertzler Memorial Hospital, Halstead, Kansas; Professor of Surgery, University of Kansas. 285 illustrations. Philadelphia: J. B. Lippincott Company.

This volume, the fourth of Dr. Hertzler's series of monographs on surgical pathology, makes one continue to marvel at the enormous amount of clinical material which the distinguished author has encountered and which he has studied thoroughly. The whole field of gynecological pathology is adequately covered in a lucid, succinct style that makes for easy reading and quick consultation. There is a slight preponderance of material on neoplasms, though none of the commoner conditions have been neglected. The illustrations are exceptionally clear and striking and have been chosen with much care. The book is beautifully printed and bound. Of the whole book the index alone is not all that could be desired. Librarians may like to use indices that classify their material under such terms as "rare," "simple," "acute," "diffuse," "flat," "general," "gut," "healed," etc., but physicians ordinarily prefer to locate their references under nouns and names. C. D. H.

THE HUMAN VOICE. Its Care and Development. By Leon Felderman, M.D. New York. Henry Holt and Company. Price \$2.50.

This book is written by an otolaryngologist for the layman, especially one who is interested in voice culture. The writer presents many interesting reviews and describes briefly and in textbook form all the various diseases of the upper respiratory tract, including sinuses and the thyroid, with various anatomical illustrations. He leaves the impression that all these conditions should be known, at least in part, by the professional singer, the instructor in voice and the student of singing.

The chapter on the mechanism of sound in lower animals should interest every one, while the chapter describing the various qualities that make up the singing and speaking voice should be of value to the singer.

The author gives many descriptions in language that is easily understood, but at times seems to forget that this is a book for the layman and uses medical terms and descriptions that only a physician could interpret. He presents little that is new to the otolaryngologist.

This book contains many suggestions that one interested in singing could use to good advantage. The book is too long to hold the continued attention of the layman inasmuch as he would be required to do considerable intensive reading to glean the important facts pertaining to the subject discussed.

O. S. G.

ILLUSTRATED PRIMER ON FRACTURES. Prepared by the Cooperative Committee on Fractures. Under auspices of Section on Surgery, General and Abdominal and Section on Orthopedic Surgery, etc. Second edition, revised and reedited. Chicago: American Medical Association. 1931.

The second edition of this most excellent "Fracture Primer" contains the identical excellent charts of fracture treatment which were presented in the first edition, together with several added chapters which give instructions in massage and active motion in treatment and suggestions for the necessary emergency splints for automobile and office use. There is also an added chapter on fractures of the skull.

I cannot commend this work too highly for the use of medical students and general practitioners, and even experienced surgeons can gain much by the review of the essentials in emergency treatment of the more common fractures. The instructions for making and applying plaster bandages are so clear and complete that this feature alone is well worth the cost of the book. For students' use the back of each page is left blank for additional notes.

The methods suggested for emergency treatment of the various fractures dealt with are those which have been approved by the Cooperative Committee on Fractures of the various component organizations of the American Medical Association.

The reviewer would like to see an added chapter dealing with emergency treatment of fractures of the spine and pelvis included in the next edition.

C. F. S.

SURGICAL PATHOLOGY OF PROSTATIC OBSTRUCTIONS. By Alexander Randall, M.A., M.D., Professor of Urology, University of Pennsylvania. Baltimore: The Williams & Wilkins Company. 1931. Price \$7.00.

Dr. Randall's material consists of 1215 autopsies from the Philadelphia General Hospital in which there were 312 instances of pathological changes in the prostate. He classifies these under (a) benign hypertrophy, (b) bar, (c) abscess, (d) cancer. In chapter I he discusses the material, age, incidence of occurrence, and race. In the subsequent chapters he deals with the material under the different groups, such as benign prostatic hypertrophy, etc., discussing statistics, race, pathogenesis, surgical considerations, etc., with sufficient life-size photographs and descriptions of each to make the point that he wishes to make perfectly clear. The reviewer regrets that low power microphotographs were not included.

An understanding of the present-day controversy over the merits and demerits of the various transurethral operations on the prostate requires a knowledge of the various lobe hypertrophies. Randall makes this perfectly clear. He considers there are six sites of glandular prostatic hypertrophy: the two lateral lobes, the posterior commissure which connects the two lateral lobes posteriorly, the anterior commissure connecting the two lateral lobes anteriorly and which usually atrophies at puberty, the subcervical glandular tissue lying between the

two commissures outside the prostatic capsule and under the mucosa of the urethra, and prostatic glandular tissue lying in the midtrigonal area. One may therefore have (1) lateral lobe hypertrophy, of which there were 32 in the 312 cases of prostatic disease. This hypertrophy may compress the urethra, may protrude into the bladder (intravesical prostatic hypertrophy) or it may lift the bladder (extravesical prostatic hypertrophy). (2) Posterior commissural hypertrophy, 31 cases, also called "glandular bars." The smaller ones are clinically called bars. From this glandular tissue hypertrophy there is elevation of the posterior vesical lip with early muscle hypertrophy at this point, accounting for the group of bars described clinically as "muscular" from the tissue removed by punch operation. (3) Bilateral and posterior commissural hypertrophy, a combination of 1 and 2, 38 cases. (4) Solitary subcervical hypertrophy, 67 cases, also called Albarán's gland or lobe. Early this protrudes into the urethra as a lobular mass, on enlargement tends to push through the internal sphincter and become pedunculated. (5) Bilateral and subcervical lobe hypertrophy, a combination of 1 and 4, 48 cases. (6) Bilateral, commissural and subcervical hypertrophy, a combination of 1, 2 and 4, in 3 cases. (7) Anterior commissural hypertrophy. Hypertrophy of this tissue is the rarest form of prostatic hypertrophy. In one case there was solitary lobe hypertrophy and in two cases in conjunction with other lobe hypertrophy of more marked degree. (8) Subtrigonal lobe hypertrophy, 2 cases.

Median bar: described as fibrous bars and glandular bars, the latter posterior commissural or subcervical hypertrophies.

Fibrous bars produce obstruction to the vesical outlet by a thin and abrupt elevation at the posterior vesical lip, rising to distort a normally smooth ureteral vesical entrance and is associated with a marked contraction and sclerotic internal vesical sphincter. From microscopic study the author concludes that all true fibrous median bars are fundamentally inflammatory in origin, the end-result in chronic prostatitis, 57 cases.

Carcinoma of the prostate: 17 cases. In the author's experience in the majority of cases carcinoma involved both lateral lobes quite uniformly. In four cases there were no metastases. The most common metastases were to pelvic and retroperitoneal lymph nodes; in four cases to bones (vertebrae 3, ribs 2, iliac bones 1).

Abscess of prostate: 16 cases, two of which were classified as acute. In 9 cases the abscess was of tuberculous origin, in 11 the abscess was localized in one lobular glandular mass, in 3 instances the abscess was in the posterior commissure.

It is of interest to note that in 25 cases there was hydro-ureter; 12 (5.4 per cent) in benign hypertrophy, 6 (10 per cent) in median bar, 6 (35.2 per cent) in carcinoma, 1 (.062 per cent) in abscess.

The reviewer recommends the book to all students of prostatic disease.

F. C. N.

MEDICAL JURISPRUDENCE. By Alfred W. Herzog, Ph.B., A.M., M.D., Honorary Academician of the International Academy of Letters and Sciences; Editor of *The Medico-Legal Journal*. Indianapolis: The Bobbs-Merrill Company.

This volume fulfills perhaps as completely as any previous work the desire expressed by most medical men who have been drawn into medicolegal controversies that some one with a degree of understanding of both the legal and medical branches, write a

compend explaining the difficulties facing medical men when appearing in a court of law, they being unfamiliar in most instances with the rules of evidence and legal procedure and the far more complicated, to their mind, nomenclature of the legal profession.

On the whole one could refer to this book more as a legal citation reference than as a treatise on medical testimony. However, the approximate 300 pages of the 1300 which are devoted to medical evidence are most complete and most interestingly presented, especially so are those chapters upon "Rights and Duties of a Physician," "Medical Expert," "Medical Cults," "Malpractice," "Hysterias," "Mental Deficiency and Intelligence Tests." Whether or not insanity should be classified with these is a rather mooted question because, as so stated in the text, most of the insanity testimony is insane in itself.

The technical procedure and toxicology are comparable with the best authorities.

Whether or not the tendency of the modern day criminologist is toward a more lenient psychology in homicidal cases is a rather interesting question. One would gather from the author that homicide and homicidal crimes are to be more and more excused by the advance in either ethical standards or the psychology of ethics.

F. I. R.

FEMALE SEX HORMONOLOGY. A Review. By William P. Graves, A.B., M.D., F.A.C.S., Professor of Gynecology at Harvard Medical School; Surgeon-in-Chief to the Free Hospital for Women and to the Parkway Hospital, Brookline. Illustrated. Philadelphia and London: W. B. Saunders Company. 1931. Price \$3.50.

Dr. Graves, as he explains in the preface, originally outlined the most recent work on the internal secretions having to do with the regulation of the female sex apparatus for his lectures to students. Advances and discoveries have been so rapid in adding to our knowledge of female sex physiology that it has been almost impossible for the physician not specializing in the field to keep informed. Consequently, this little resumé of some 96 pages, which takes up historically and chronologically each step that has added to our knowledge, and quotes the gist of the experiment and by whom performed to add spice to the story, is indeed a timely publication. The successful search for the hormones of the ovary and the discovery of the hypophysis as an agent in the sexual and reproductive cycles undoubtedly represent one of the greatest advances in scientific medicine during the last decade. The recent good work started in this country with Allen and Doisy's practical identification of an ovarian hormone in 1922, the identification by Frank of the estrous-forming hormone in the liquid contents of the follicle and other tissues, and finally the isolation of folliculin (estrin) in 1928 by Allen and Doisy in this country and Butenandt in Germany in pure crystalline form. The following year (1929) Corner published his discovery of progesterin—the hormone of the corpus luteum which proved the two-fold nature of the ovarian internal secretions. In 1930 came Zondek's and Wiesner's demonstration of two sex hormones of the anterior lobe of the pituitary gland which seems to act as a motor to the ovarian internal secretions.

In the final chapter Dr. Graves points out how substitution therapy has not kept pace with the brilliant discoveries in sex hormonology. There is an explanatory glossary appended containing an in-

teresting outline of the various proprietary preparations and what they actually contain—or in most cases do not contain—to give a therapeutic effect. A well selected bibliography follows the glossary.

This book is an excellent, readable and concise resumé of our present knowledge of female sex physiology by a calm student with years of experience in the field. Every practitioner should be familiar with the scope and contents of this little book.

E. C. P.

A TEXT-BOOK OF MEDICAL DISEASES FOR NURSES INCLUDING NURSING CARE. By Arthur A. Stevens, A.M., M.D., Professor of Applied Therapeutics in the University of Pennsylvania, etc., and Florence Ann Ambler, B.S., R.N., Supervisor of Educational Department, School of Nursing, Philadelphia General Hospital. Philadelphia and London: W. B. Saunders Company. 1931. Price \$2.75.

It is always rather amusing at the present time to read a textbook of nursing, especially of medical diseases. They remind one so much of Osler, as taught to medical students, and perhaps the idea of medical nursing today is that of graduate medicine.

It is rather stretching a point to expect of nurses with no more than a high school education and lack of basic sciences to comprehend the detailed diagnoses and treatment one would expect of a graduate in medicine. It seems rather strange that prognosis and medical treatment should be incorporated in a textbook of medical nursing, where it is assumed that there is a physician in charge of the case.

F. I. R.

UNITED STATES ARMY X-RAY MANUAL. Authorized by the Surgeon-General of the Army. Second edition, rewritten and edited by Lt. Col. H. C. Pillsbury, M.C., U.S.A. 228 illustrations. New York: Paul B. Hoeber. 1932. Price \$5.00.

In this new edition the author has revised the text to conform to the needs of the roentgenologists in civilian practice. The chapter on roentgen ray physics has been revised and rewritten with a description of additional apparatus added to roentgenologist armamentarium within recent years. The construction of Metalix tubes is illustrated and the principle involved in line focus tubes is described.

The material on technic has for the most part been assembled into a single section, a more practical working arrangement.

The chapter on bones and joints has been augmented by a very valuable discourse on the spine, especially in relation to injuries.

The section on chest roentgenology has been practically rewritten; illustrations showing the various types of chest pathology are included. The essentials of the National Sanatorium Association classification for tuberculosis have been very widely included. In this section there has been, to my mind, one very regrettable omission, i. e., Bardeen's tables showing heart measurements.

The chapter on urinary tract deals in a brief, concise manner with the usual disorders encountered in this field.

In the gastro-intestinal section mention is made of some of the more recent methods of diagnosis—Akerlund's pressure technic for the detection of finer gastro-intestinal lesion and Graham's method of examination of the gallbladder by the use of tetraiodophenolphthalein.

In short, the second edition of this very valuable work has been well handled and the result is a book of definite value to roentgenology and to medicine.

L. R. S.

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E. J. GOODWIN, M.D., Editor
1023 Missouri Building, St. Louis, Mo.
Telephone, Jefferson 5261.

PUBLICATION } J. C. B. DAVIS, M.D., Chairman
COMMITTEE } G. WILSE ROBINSON, M.D.
M. A. BLISS, M.D.

ACUTE HEMORRHAGIC MASTOIDITIS

REPORT OF CASE*

C. SOUTER SMITH, M.D.

SPRINGFIELD, MO.

Acute hemorrhagic mastoiditis, as described by Kopetzky,¹ is a type entirely distinct from the more usual coalescent mastoiditis. Pathologically, it is characterized by engorgement of the blood vessels with thrombus formation in the small veins, without breaking down of the mastoid cells and without exudation of pus or formation of granulation tissue. Clinically, it is characterized by a septic course with marked prostration. It has a great tendency toward intracranial complications, especially lateral sinus thrombosis, and it never ends in recovery without surgical intervention. Our management of mastoid cases will be greatly improved by early recognition of cases of this type before intracranial complications have occurred.

In coalescent mastoiditis there is a necrosis of the intercellular walls. The mastoid cells coalesce to form large cavities filled with pus and granulation tissue. The bone necrosis may continue until the dura is exposed, or the lateral sinus. Entirely different is the acute hemorrhagic type of mastoiditis in which the pathological process is limited to the interior of the blood vessels. The blood vessels supplying the mucous membrane of the mastoid cells are engorged, septic thrombi form in the small veins, there is a serous or bloody exudate but no pus, no breaking down of cell walls and no formation of granulation tissue. Extension occurs not by necrosis of bone but by extension of the infected thrombi from the small venules to larger veins, and ultimately in a large number of cases to the lateral sinus. The Strep-

tococcus hemolyticus is the infecting organism in the majority of these cases.

The symptoms of acute hemorrhagic mastoiditis are those to be expected from its pathology. The discharge from the ear is serous rather than purulent and may be bloody. There is pain in the mastoid and tenderness over that region but no sagging of the meatal wall. The striking feature is the condition of sepsis, which appears early. The patient is prostrated. The temperature tends to be high, or it may fluctuate abruptly from near normal to high. A headache centering in the parietal or occipital region is usually present. Vomiting occurs in most cases. Secondary lesions in the lungs, heart, kidneys, or elsewhere may appear early as well as late in the course of the disease. The blood culture may or may not be positive. A progressive reduction in the red blood cells and hemoglobin is due to the hemorrhagic action of the Streptococcus hemolyticus. The roentgen ray examination is of no help. The plates in these cases are negative because the mastoid cells remain intact.

The treatment is always surgical. Because intracranial complications, especially lateral sinus thrombosis, tend to occur early the operation should be performed as soon as the diagnosis is made. Watchful expectancy plays no part in the treatment of this type of mastoiditis. In the early stages, before the lateral sinus has become involved, a simple mastoid operation is sufficient. After thrombosis of the lateral sinus has occurred, removal of the clot is necessary followed by obliteration of the sinus and ligation or resection of the jugular vein. If at the time of the mastoid operation the lateral sinus is not exposed and opened, the patient must be watched carefully for continued high temperature, for chills followed by abrupt rises in temperature, for continued reduction in hemoglobin and for metastases. These are symptoms of further venous involvement and are indications for opening the lateral sinus.

* Read at the staff meeting of the Springfield Baptist Hospital, March 14, 1932.

1. Kopetzky, Samuel J.: *Otologic Surgery*, New York, Paul B. Hoeber, Inc., 1929.

In addition to the surgical treatment of the mastoid, blood transfusion should be employed in every case in which the hemoglobin falls below 50 per cent. Nothing else can so greatly increase the patient's resistance to the bacteremia already present.

The prognosis is good in all cases in which the mastoid operation is performed before the lateral sinus has become involved. In those cases which come to operation after thrombosis of the lateral sinus has developed the mortality is about 50 per cent. Death occurs not from the sepsis but from metastases which develop in the lungs, heart, meninges or elsewhere.

REPORT OF CASE

History.—The patient, a boy of fourteen, entered the Springfield Baptist Hospital on February 12, 1932, because of severe pain in the right ear which had persisted for nine days despite a free discharge.

The parents were inclined to date the history of the present complaint back to a vaccination against smallpox done twenty days previously; the vaccination took in mild form and at the same time the boy developed a severe headache and a pallor so pronounced that his teachers remarked about it. Eight days after the vaccination the boy developed tonsillitis. Three days later he had a severe hemorrhage from the nose and pain started in his right ear. The next day the ear ruptured but the pain remained intense. The nose continued to bleed off and on. The boy had been vomiting for two or three days.

Examination.—The temperature on admission was 101.6. The general appearance was that of a very sick boy. Pallor was pronounced. The right ear was discharging; no sagging of the meatal wall; the drum was red and swollen; no tenderness on deep pressure over the mastoid tip or antrum. General examination was negative.

Laboratory Findings.—The leukocyte count was 16,100, polynuclears 76 per cent; hemoglobin 50 per cent. Urinalysis gave evidence of hemorrhagic nephritis. Roentgen ray examination negative.

Progress.—During the next three days, February 13, 14 and 15, no symptoms of importance developed. The discharge from the ear diminished in amount and the pain in the ear was negligible from the time of admission. In its place, however, the patient complained almost constantly of a severe headache in the occipital region. His nose bled at irregular intervals. He retained little food. The temperature in the mornings was around 100; in the afternoon it ranged from 101 to 102. He appeared prostrated.

On the morning of February 16 the boy complained of being very cold though at no time did he have an actual chill. At noon his temperature had jumped to 104.2 and it remained high all afternoon. He complained of no pain in or around the ear but a severe occipital headache. He was vomiting. The attending internist reported a soft blowing murmur over the mitral area which he thought might be the beginning of an endocarditis.

A blood culture was made which after sixty hours was reported negative.

The next morning, February 17, the temperature ranged between 101 and 102. The white cell count was 23,000, polynuclears 84 per cent, hemoglobin 49 per cent and the red blood cell count was 2,970,000.

From these symptoms occurring during the course of a suppurating ear, thrombosis of the lateral sinus was considered probable and an immediate operation advised.

Operation.—Upon opening the mastoid process we encountered an extreme amount of hemorrhage. Wherever the bone was touched it bled profusely. There was no pus and the mastoid cells were not broken down. No fistula led to the lateral sinus which was exposed and found to be normal in appearance. Nevertheless we opened it. Free hemorrhage occurred from the upper end but only a trickle of blood issued from the bulbar end. No thrombus was seen nor could any be withdrawn by the curet. Apparently a clot existed further down than we could reach. We therefore exposed and ligated the internal jugular in two places. There appeared to be no clot within the vein. The cervical wound was closed without drainage. Following this catgut sutures, acting as drains, were placed in the lower end of the lateral sinus extending toward the bulb. The upper end of the sinus was left plugged. The mastoid fossa was lightly packed with ribbon gauze.

A culture from the specimens of mastoid bone removed showed the *Streptococcus hemolyticus*.

Postoperative Course.—On the same day and following the operation the patient had a hard chill and the temperature rose to 105.2 but dropped that night to 100. During the next two days his condition was much the same as before operation. He still complained of headache and continued to vomit. The temperature was around 100 in the morning and 101 in the afternoon.

On the second postoperative day the hemoglobin was 40 per cent and red blood cells 2,660,000. For the purpose of building up the blood and increasing the patient's resistance to the bacteremia a blood transfusion was resorted to, giving 400 c.c. of citrated blood. This seemed to be the turning point in the case. Improvement was noted immediately following the transfusion and continued. The vomiting abated and the headaches became milder. The temperature gradually approached normal.

On February 21 the hemoglobin was 65 per cent, red blood cells 3,470,000. Leukocytes were still high, the count being 16,900, and polynuclears 74 per cent.

The boy continued to improve and on March 5 was allowed to leave the hospital. He returned for observation March 25 fully recovered.

Remarks on Case.—An early diagnosis of acute hemorrhagic mastoiditis was hindered in this case by the absence of two symptoms usually present (1) tenderness over the mastoid and (2) high temperature. There were from the first, however, two symptoms which in the presence of a discharging ear should have suggested acute hemorrhagic mastoiditis, viz., prostration and pronounced pallor. Had we had from the day of admission a daily estimate of the hemoglobin and red blood cells and noted the steady reduction in each the correct diagnosis might have been made before the lateral sinus became involved.

SUMMARY

Acute hemorrhagic mastoiditis is a type in which the pathological process is limited to the

interior of the blood vessels, where septic thrombi are formed. It is characterized by a condition of sepsis with prostration and high temperature. The blood shows a steady reduction in the hemoglobin and red blood cells. The roentgenogram is negative.

The treatment is always surgical. Because intracranial complications, especially lateral sinus thrombosis, tend to occur early the operation should be performed as soon as the diagnosis is made.

214 N. Jefferson Avenue.

REHABILITATION OF TUBERCULOUS PATIENTS*

G. D. KETTELKAMP, M.D.

KOCH, MO.

Within recent years very great advances have been made in the treatment of tuberculosis. Such special aids as pneumothorax, thoracoplasty and other surgical procedures, as well as such nonsurgical procedures as light therapy and vitamin therapy have been increasing rapidly. However, notwithstanding these advances, our one great therapeutic aid still is prolonged rest. Though convalescence can be hurried in some cases by the special measures mentioned the fact remains that in the great majority of cases the curing of tuberculosis requires a great deal of time.

Unfortunately, tuberculosis picks most of its victims from that period of life when normally the afflicted would be attending school, learning trades or in other ways preparing themselves for later competition in economic life. Because of this the disease itself has interrupted this preparation in a great many of the patients in a tuberculosis sanatorium. Although tuberculosis attacks all people in all strata of society, it is an accepted fact that it recruits the majority of its victims from those who are economically under-privileged and often, even before tuberculosis has had an opportunity to interrupt the necessary preparation for life's competition, these patients have been deprived of this preparation by the unfavorable economic conditions which prevail in their homes. The result is that a great many tuberculous patients have a preparation that under normal circumstances is none too good, and when they become further hampered by a physical handicap the outlook becomes still less hopeful. Another fact of which we must not lose sight is that hospitalization over a period of time long enough to cure tuberculosis robs

one of that morale and confidence which are so necessary in the competition of our present-day economic life. Anything that will result in a consciousness on the part of a patient that he is becoming better trained for work than he was when he became ill will act as a very valuable stimulus to his morale.

At Robert Koch Hospital (unless there is a definite contraindication) we advise our patients to remain at the sanatorium until their tuberculosis becomes arrested. An arrested case of tuberculosis is defined by the National Tuberculosis Association, as follows:

All constitutional symptoms absent; sputum if any microscopically negative for tubercle bacilli; roentgen ray findings compatible with a stationary or retrogressive lesion. These conditions shall have existed for a period of six months during the last two of which the patient has been taking one hour's walking exercise twice daily, or its equivalent.

From this it can be clearly seen that every patient before he becomes an arrested case has considerable time at his disposal which he could utilize for the purpose of improving his efficiency against the time when he must meet normal economic competition. It becomes our duty to provide the means by which these patients can be instructed along the necessary lines. Various methods have been attempted for the rehabilitation of the tuberculous patient. Some of the earlier methods were to place these patients into groups or colonies and provide them employment under medical supervision with remuneration in proportion to their ability to work. Examples of these efforts are, Altro Workshops, Central New England Sanatorium and Industrial Colony, Tomahawk Lake Camp and Potts Memorial.

Laudable and beneficial as these efforts have been they are still far from an ideal solution of this tremendous problem. There can be no doubt that any effort at rehabilitation should utilize the spare time that a patient has at a sanatorium before gaining an arrest of his tuberculosis. At several of the institutions of the country some progress along this line is being made. Perhaps the best example of this is found at the Glen Lake Sanatorium, which is the tuberculosis sanatorium for Hennepin County, Minnesota, the county in which Minneapolis is located. In that sanatorium the Minneapolis board of education, the occupational therapy department of the sanatorium, the social service department of the sanatorium, the vocational guidance and rehabilitation department of the National Tuberculosis Association and the physician in charge, are represented on a committee which considers the needs and aptitudes of the patient as soon as he has recovered sufficiently to be interested in doing reading other than fiction or in taking

* Read before the St. Louis Medical Society, March 29, 1932.

any kind of school work. After the course of procedure has been decided, instruction is begun by teachers provided for that purpose. This instruction may be in commercial lines, language, home economics, ordinary academic subjects, stenography, or one of many other lines.

It was with the hope that some such program could be arranged for our patients at Robert Koch Hospital that a careful survey was made among our patients. We interviewed 421 patients, none of them under 16 years of age. At the present time we have a full-time teacher furnished by the board of education to instruct our children and consequently the children were not included in this survey.

Table 1. *Age Groups*

	16 to 30 years	30 to 45 years	Over 45 years	Total
Male	69	66	83	218
Female	139	47	17	203
Total	208	113	100	421

Table 1 shows the age groups of the 421 patients. There are 69 males and 139 females, a total of 208 between the ages of 16 and 30; 66 males and 47 females, 113 patients, between the ages of 30 and 45; 83 males and 17 females, 100 patients, over 45 years of age. The entire survey included 218 males and 203 females. Almost half of our patients are between the ages of 16 and 30. As suggested above, this is the age period during which people normally are preparing themselves by school attendance and other educational methods for competition which they must meet later in life. Almost 50 per cent of our group of patients are compelled to be treating their tuberculosis during this period and consequently, unless some method is adopted by which their spare time is utilized, this preparation for their future life must be discontinued.

The story would be less sad if all the patients who had reached the age of 30 had had a reasonable opportunity to make this preparation; however, economic and health conditions of a great many of the patients above this age have interfered with their proper education and preparation, as will be noted in table 3.

Table 2 lists the number of children, more or less, depending upon our patients. It shows

Table 2. *Number of Children Per Patient*

Patients	Children	Total Children
45 Patients have	1 child each	45
30 Patients have	2 children each	60
17 Patients have	3 children each	51
11 Patients have	4 children each	44
11 Patients have	5 children each	55
7 Patients have	6 children each	42
3 Patients have	7 children each	21
2 Patients have	8 children each	16
1 Patient has	11 children	11
127 Patients have		345 children

that 345 children are depending upon 127 of our patients. In other words, the question whether or not these patients will be able to make economic provision after arresting their tuberculosis touches society very intimately not only in 127 cases but in at least 472 instances.

Table 3. *School Grades Finished*

Grade Finished	Male	Female	Total
1st Grade School	2	1	3
2nd Grade School	7	2	9
3rd Grade School	10	3	13
4th Grade School	15	5	20
5th Grade School	10	9	19
6th Grade School	19	24	43
7th Grade School	25	26	51
8th Grade School	53	67	120
1st High School	10	10	20
2nd High School	7	19	26
3rd High School	5	4	9
4th High School	16	26	42
1st College	3	1	4
2nd College	1	2	3
3rd College	4	0	4
4th Graduated from College	4	1	5
Graduated from University	5	0	5
No schooling	8	0	8
Ungraded	14	1	15
Still in school	0	2	2
	218	203	421

Table 3 shows the school grades finished by these 421 patients. It is very evident from this table that these people have been very much under-privileged and the table emphasizes the hopelessness of expecting many of them to overcome their physical handicap when they are so poorly provided with educational advantages. It is a common experience in surveys of other institutions similar to this one to note that those who have finished only the 8th grade comprise by far the largest group.

In our institution 53 males and 67 females, a total of 120 patients, have concluded their schooling with an 8th grade education. This does not mean however that the 120 represent all those who have not had more than an 8th grade education. The sum of 120, plus all of the preceding totals up to the first grade, the 8 representing "no schooling" and the 15 "ungraded," is the actual number of patients who have not had more than an 8th grade education. Out of the total of 421 patients there are 302, or about 72 per cent, who have not had more than an 8th grade education. Even in this day when schooling is so necessary and competition so intense those of our patients who have stopped their schooling with a complete high school education are fewer than those whose schooling was concluded with the 7th grade, or who stopped in the 6th grade. It is of interest to know that the advantages of the females, up to a high school education, are greater than those of the males. In the case of 4th year high school their advantages are in the ratio of 26 to 16; and in the 2nd year high school, 19

to 7. This is probably a reflection of the unfavorable economic condition of families in which the tuberculosis occurs, the males being more frequently called upon to provide the means of subsistence for the families.

Table 4. *Training Desired. Males*

No training	99	Accountancy	2
Undecided	13	Music	2
Finish grade school	16	Drafting	2
Radio work	11	Photography	1
English	11	Shoemaker	1
Business training	11	Chauffeur	1
Learn trades	9	French	1
Salesmanship	6	Tailoring	1
Electrical work	5	Short story writing	1
Art course	4	Carpentry	1
Chemistry	4	College extension work	1
Journalism	3	Mechanical Draft	
Watch repairing	3	blue print	1
Laboratory technician	2	Woodcarving	1
German	2	Wireless telegraphy	1
Commercial Law	1	Theology	1
Total males, 218			

Table 5. *Training Desired. Females*

Sewing	87	Advertising	3
Secretarial	37	Journalism	3
Finish high school	11	Saleslady	2
Finish grade school	9	Beauty operator	1
Study English	8	Social worker	1
Nursing	6	Practical nurse	1
Bookkeeping & accounting	6	Stock raising	1
Art course	5	Waitress	1
Laboratory technician	5	Dietetics	1
Home economics	3	No training	4
Dictation & typing	3	Recreational director	1
Interior decorating	3	Actinotherapy	1
Total females, 203			

Tables 4 and 5 show the desires expressed by our patients for special training of some sort. A great deal of investigation should be made and many factors other than the desires of the patients taken into consideration before a mode of procedure is decided upon for any given patient. The competition in the various fields, chances for gaining employment, individual aptitudes and many other things should be taken into consideration. Although there were 99 men who expressed no desire for any kind of training, and 13 were undecided (many of these no doubt were so ill that for the present time they could not be interested in such a procedure), still a glance at these two tables will show the great enthusiasm manifested in this work by our patients at Robert Koch Hospital. Ever since this survey has been made the patients are constantly asking when we are going to begin our program of rehabilitation. The answer of course is "When sufficient money becomes available with which to do it."

Table 5 very plainly shows the extreme enthusiasm manifested in this work by the women. All but four expressed a desire for some sort of further training notwithstanding that many of them at the present time are so ill that any procedure like this would be out of the question.

Of course, the great question to be answered

in contemplating any program like this is, "How much time would the patient have to devote to such work?" In order to arrive at an answer to this question the record cards of all these patients were turned over to their respective physicians who designated on the card the amount of time that the particular patient would be permitted to devote to some such line of work. In case the patients were too ill the physician simply designated "No time." On some cards they showed " $\frac{1}{2}$ hour," on others "1 hour," and so on, up to "3 hours" daily, as shown in table 6.

Table 6. *Amount of Time Permitted Daily by Physicians*

Time	Male Patients	Female Patients	Total
No time	70	59	129
$\frac{1}{2}$ hour	12	15	27
1 hour	45	28	73
$1\frac{1}{2}$ hours	5	24	29
2 hours	39	44	83
$2\frac{1}{2}$ hours	40	7	47
3 hours	7	26	33
	218	203	421

There were 70 males and 59 females, a total of 129, too sick to engage in any such work at the present time; 12 males and 15 females, a total of 27, were able to spend $\frac{1}{2}$ hour daily; 45 males and 29 females, a total of 73, were able to spend 1 hour daily; 5 males and 24 females, a total of 29, were able to spend $1\frac{1}{2}$ hours daily; and 39 males and 44 females, a total of 83, were able to spend 2 hours daily; 40 males and 7 females, a total of 47, were able to spend $2\frac{1}{2}$ hours daily, and 7 males and 26 females, a total of 33, were allowed to spend 3 hours daily. Stating it in another way, 512.5 hours were available to 292 patients, an average of about 1.7 hours per day per patient.

The cost per patient for such a program of education is difficult to estimate. From the reports of rehabilitation in general, including those who were handicapped by accident as well as disease, one would arrive at a rough estimate of about \$250 per individual for rehabilitation work. Although it is impossible to give an accurate estimate, still from a comparison between the individual who can support himself and possibly one or two others and the individual who must be supported and maintained by the State, it is very evident that the cost of such work would be insignificant as compared with the amount of money saved to society as a result of their being able to provide for themselves. There can be no doubt that a program such as I have outlined properly carried out would be a great financial saving to the community. However, this is only a part of the value. As stated before, being conscious of a physical handicap is a severe

strain on the morale of the individual; and the encouragement that many patients would derive from the consciousness of becoming better prepared for economic competition would be one of our best therapeutic measures in treating tuberculosis.

As suggested before, a very small and compared to the need relatively insignificant effort has been made along this line at Robert Koch Hospital. Two patients have had training as switchboard operators; one physician learned roentgen ray technic; three girls have been trained in actinotherapy one of whom has since graduated from an accredited training school for nurses and is in charge of this department at Koch Hospital; another is employed as assistant in this department and the third is now enrolled in the training school at Trudeau Sanatorium. Three or four patients have had training in our laboratory. One of them has since completed a recognized course of laboratory technic and is at present our bacteriologist; another has a good position as technician in our laboratory and another is further pursuing her studies at the Jewish Hospital in St. Louis in laboratory technic. Several of our patients have had an opportunity to brush up on their typing in the office of the *Koch Messenger* (a monthly publication conducted by the patients).

For the past two years we have been referring some of our arrested cases to the rehabilitation bureau of the American Red Cross in St. Louis.

Through the St. Louis Community Fund a small sum of money was made available to this bureau for rehabilitation of disabled persons which has been of great help to a few of our cases. They report that our ex-tuberculous patients on the average are of a very high quality. I think it only natural that this should be true because those who have won the fight against the disease or who are winning it have had much training in patience, determination and persistence. These are the very qualities that make for the best employees, once their work is suited to their physical ability. By these qualities they frequently more than make up for their physical handicap.

The following few case histories will illustrate some of the work which the American Red Cross bureau is doing for some of our patients after they leave the sanatorium.

REPORT OF CASES

Mrs. L. B., who had a far-advanced arrested tuberculosis, was referred to the rehabilitation bureau on September 15, 1931. She had been working at the laboratory at Koch Hospital and wanted to become a laboratory technician. Such an opportunity was secured for her at the Jewish Hospital

where she will receive eight months' training. The cost to the rehabilitation bureau will be approximately \$210.

This woman had no home and no means of caring for herself during the training period. Provision was therefore made for her room and board amounting to \$5 a week through the bureau for dependent women. Reports from the hospital indicate success and it is probable that she will be retained at the hospital as an employee when her training is completed.

Mr. W. E., a far-advanced arrested case, was referred to the rehabilitation bureau on June 23, 1931. He was anxious to secure training that would fit him for a clerical position. At the time he filed application he was working as a delivery man for a cleaning company. The work was hard on him because of the heavy bundles he was obliged to carry and because of the running up and down stairs. He was given the secretarial course at Rubicam Business School, beginning August 31, 1931, and will complete it on May 31, 1932. The cost to the rehabilitation bureau is approximately \$217. The Bureau for Homeless Men has given him money for room and board and incidental expenses during this period and will continue to support him until a position has been secured.

Mr. H. S., a case of moderately advanced arrested tuberculosis, was referred to the bureau July 29, 1931. He was a baker by trade and since he could no longer follow that occupation he came to the rehabilitation bureau's office to ask help in securing work as a truck driver. In discussing his employment history and his employment interests it was learned that he spent his spare time studying aviation. It was his secret desire some day to work around an aviation field. A complete course in ground aviation at the Von Hoffmann Air School was given him at a cost of \$242.50. In the meantime, the St. Louis Provident Association set the family up in housekeeping in a small cottage near the flying field. Since they had always lived in furnished rooms it was necessary to buy furniture and entirely support the family during the course. He made such excellent progress that he was given a position with the Von Hoffmann company as soon as he had completed training.

Mr. C. S., a far-advanced arrested case, was referred to the bureau July 29, 1931. He had finished a course in law and was admitted to the bar while a patient at Robert Koch Hospital. He needed a stenographic course in order to enter a law office in a clerical capacity. Later he hoped to establish his own practice. A stenographic course was given him as well as further work at the City College of Law. He has completed his work at the business school and was one of the students who were selected to work in the recent campaign for collecting funds for the Citizens' Relief Committee.

Mrs. M. R., a far-advanced arrested case of tuberculosis, was referred to the bureau December 14, 1931. As she wanted to be a manicurist she was given a course at one of the schools of beauty culture. On completion of the course she investigated several possibilities for work and had made arrangements with a barber shop to gain experience. At present she is earning only tips which are sufficient to meet incidental expenses. Later she hopes to rent a space and expects to make a good living. She is quiet, attractive and dignified. The barber shop is high-class and it is believed the arrangement will prove satisfactory.

Miss V. W., a patient with a far-advanced arrested tuberculosis, was referred on April 14, 1931. She had taken a stenographic course in high school but as she entered a sanatorium immediately after graduation she had no work experience. She was given a brush-up course at the expense of the rehabilitation bureau and then became a stenographer for the bureau. She remained six months but when the bureau was asked to fill a position in a lawyer's office which paid \$25 more than she was receiving at the bureau she was given the opportunity to apply. She secured the position and her employer believes that when she learns the necessary details she will earn a maximum of \$150 a month.

In 1920, soon after the World War, a federal statute was enacted making available to the several states certain sums of federal money for rehabilitation of their citizens who have been handicapped by accident or disease. The amount depends on the population of the state. The federal grant is available, however, only when the state appropriates an equal amount for this purpose. Today Missouri has the unenviable distinction of being one of only four states not matching this federal grant. Were we to match it by a state appropriation \$29,000 of federal funds would be available for us for this purpose. As it is now, the \$29,000 intended for us is being apportioned to the other 44 more progressive states. I am sure that all in this audience understand this situation well enough to see the great need for this work among the handicapped. I am sure you are aware of the need of this work from a purely humanitarian standpoint. I am equally sure that it is evident to you that Missouri is in reality wasting a great deal of money maintaining in her eleemosynary institutions many people who could be made entirely self-supporting with this \$58,000 once we appropriate the \$29,000.

Legislation is but a reflection of the desires of the constituents of the legislators. If we who know will put forth enough effort to inform the public and the legislators of this need I am sure the legislation will follow.

Koch Hospital.

MODEL SON

"Why can't you be more like Johnny Groves," the exasperated mother bellows at her young son. But if you must pick a model for your son, Mother, take one of another day and location, because Johnny Groves may not be the type that appeals to boys.

Perhaps your son may know more of the faults of Johnny than you do and may wonder "how he gets away with things." Your son may even be bewildered by the shortsightedness of his parent.

"Imitation, suggestion or identification with a person considered superior are ways in which a child progresses in his personality growth," Dr. E. S. Rademacher writes in *Hygeia*. Lectures and discussions will be of little avail if the parents themselves cannot serve as a model of favorable adulthood.

PNEUMOTHORAX AS A HOME TREATMENT*

LAWRENCE SCHLENKER, M.D.

ST. LOUIS

The treatment of pulmonary tuberculosis remains predominantly a home problem. Its continuance as such is most probable for who can conceive a community able at any time to hospitalize a material part of its tuberculous sick. The cost as well as the physical magnitude of such an undertaking is appalling when set down in figures. I point for example to the City of St. Louis, within whose borders there are presumably 9700 people with tuberculosis of the lungs, a figure obtained by estimating two and one half actual cases to the one reported to the health department, the department's registered cases numbering 3906. Of the estimated 9700 cases, St. Louis' municipal institutions taken together are able to hospitalize but 650—less than 7 per cent—and at a cost to the community of approximately \$684,633 the calendar year, or \$1053 the year for each patient. With striking uniformity, the ratio found in St. Louis obtains throughout the larger urban communities of the United States. New York City, with 50,000 cases of pulmonary tuberculosis, estimated by Dr. Linsly R. Williams,¹ publishes a registration of 18,866 and an ability to hospitalize only 3497 cases in all its public institutions. New York's hospitalization strength is also a scant 7 per cent and the cost per patient about the same as in St. Louis. With full allowance for those going into private sanatoria, the hospitalization strength of these communities can hardly be placed at more than 10 per cent. Made manifest by these figures why 90 of every 100 of tuberculous persons must be treated at home, it goes without saying that there should be available to this large army of sick and infectious people every form of treatment of whatever curative value. To adapt to their needs and surroundings a cure of such outstanding value as pneumothorax becomes categorically imperative.

The treating, by and large, of this 90 per cent of the tuberculous is the fortune of the doctor in general practice, particularly its early *behandlung*, with which good fortune there is passed on to him the potential credit for having enlisted the help of collapse therapy at a day to give its fullest benefit, before the disease had spread to the clean lung, or before time had permitted extensive adhesion of the pleura. The case is certainly no longer early when moist rales are heard in the lung and we

* Read before the St. Louis Medical Society, Feb. 12, 1932.

must, soon or late, realize that when these rales are present the responsibility rests upon the medical attendant to press collapse therapy upon the patient unless there exists a valid contraindication. Time spent on other methods is often the time during which his golden opportunity for recovery is lost. One may well admit that the fever will leave under prolonged bedrest, the weight increase and the patient feel stronger; but the result very likely is catastrophic just so soon as the everyday stress is thrown upon his shoulders, and sitting in the presence of the tragic consumptive it does seem that this finality could often have been avoided. Of the 175,000 cases of open tuberculosis in Germany 40,000, according to Zinn,⁴ would be amenable to treatment by pneumothorax whereas only 17,000 are actually being so treated.

It goes without saying that any protracted medical treatment which cannot be carried out in the home or office will in the nature of things have a much restricted application and a corresponding limited usefulness. Overtly practical, pneumothorax treatment disposes of many difficulties which have made heavy weather for the practitioner treating the disease at home. Something tangible is being done whose effects are readily seen upon fever, cough, expectoration and the many thorns besetting the man in bed, through which more honest working cooperation is secured. The while, in the collapsed lung, exacerbations are suppressed, the danger of hemorrhage reduced to zero, and intercurrent infections are handled as by the nontuberculous individual. Altogether, bedrest is materially shortened and the capacity for work recovered much earlier. Curiously prophetic is the writing 110 years ago of one James Carson, a Scotchman practicing in Liverpool *circa* 1799-1843. On the subject of pulmonary tuberculosis Carson in the year 1822 wrote:² "It has long been my opinion that, if ever this disease is cured, and it is an event of which I am by no means disposed to despair, it must be accomplished by mechanical means, or, in other words, by a surgical operation." Going on to say that because of the "elasticity and condition of extension" in the lung, healing was obtained with difficulty in the diseased organ, he makes the extraordinary statement that if the lung were collapsed "the diseased part would be placed in a quiescent state, receiving little or no disturbance from the movements of respiration, which would be performed solely by the other lung, and the divided surfaces would be brought into close contact by the same resilient power

which before had kept them asunder. A wound or abscess of this lung would be placed in circumstances at least as favorable to the healing process as the same affections in any other part of the body."

Two standards for measuring the worth of any proclaimed cure for tuberculosis, singularly practical and free from human bias, are the freeing of the sputum of tubercle bacilli, and the restoring of ability to work. In Stub-Christensen's³ 204 cases given pneumothorax in a sanatorium the sputum was freed of bacilli in 56.3 per cent. Under the same sanatorium treatment in a similar group without collapse therapy only 33.5 per cent lost their bacilli. Zinn's⁴ figures are 85 per cent freed of bacilli by pneumothorax treatment. Taking the last 50 of my own cases, though the subject has had much better spokesmen, a group of patients was selected for collapse therapy with a fair allowance for its possibilities and in each instance received treatment at home. All had had clinical disease for at least six months and were classified as moderately or far advanced and tubercle bacilli were present in the sputum of every patient. Of this group, now under collapse treatment for from six months to a year or more, 64 per cent no longer expectorate, 12 per cent expectorate a bacillus-free material, and in 24 per cent tubercle bacilli can still be found in the sputum. Fluid formed in the pneumothorax cavity in 76 per cent of the cases but disappeared with or without aspiration in all but 20 per cent of the number. As collapse took place, screening demonstrated that in only 8 per cent of the group was the pleural cavity entirely free of adhesions. It was said the aforementioned group had been selected with some care; in 20 per cent, however, moist rales were heard in the better lung and the roentgenograms without exception showed densities from a small to a moderate amount on the contralateral side. Five cases, in whom adhesions were of such an extent as to cause early abandonment of the treatment, are omitted. A significant matter upon which too little stress has been laid, is the effect of collapse therapy upon preventive disease in the community through cleaning up the carriers of tubercle bacilli. Tuberculosis is and can only be contracted from one throwing off tubercle bacilli. This statement has assumed the dignity of an axiom, and its corollary is ably stated by Opie⁵ that "children exposed to tuberculous persons whose sputum is negative on repeated examination are in relatively little danger. I think this

relation of the sputum examination to tuberculosis is an interesting one from the standpoint of public health."

To go into the procedure of administering pneumothorax is not intended; however, some points original or not may be brought in, particularly those applying to its use in the home.

Apparatus and Assistant.—By reason of its simplicity the Dr. Samuel Robinson apparatus lends itself well to our purpose. The assistant's duty begins and ends with the manipulation of three stopcocks, which any adult member of the family can understand in a few minutes.

Needles.—For putting down the anesthetic solution a sharp thin needle 25 gauge by one inch is best; and to insure peace of mind the Security type⁶ is recommended. Should this needle break off in the tissues it can always be grasped and withdrawn. Sharp and comparatively small needles can be used to carry the gas. For the past ten years I have used a 19 gauge by 1½ inch ordinary hypodermic needle at the initial treatment as well as for the refills. With care the lung will not be cut and the pleural space can be found as readily. Several objections may be made toward the large blunt needle formerly used—awkwardness, the necessity of making skin incisions and the more frequent occurrence of subcutaneous emphysema.

The Local Anesthetic.—Weak solutions are satisfactory, ¼ per cent cocain or procain or ½ per cent butyn. I have seen all these drugs cause intoxication symptoms, procain the most alarming. Where idiosyncrasy is known to exist, a half-grain of sodium phenobarbital in the 2 c.c. of anesthetic solution may prevent the occurrence of such symptoms. One part epinephrine chloride 1:1000 solution to three of the anesthetic helps to control bleeding. All solutions must be freshly prepared.

Asepsis.—Absolutely sterile technic, the cardinal point in pleural puncture, can be carried out wherever water can be boiled. The syringe and needle employed for anesthesia, the gas needle with its stylet and the terminal section of the gas tube must be boiled to asepsis before each treatment. As any needle may become choked by water, serum or blood, all sterilization water must be shaken out of the gas needle before its insertion. The stylet is to be left in place, not projecting beyond the needle's point, as the latter goes through the chest wall. Sense of touch will at times tell when the needle enters the pleural cavity; however, there is but one safe rule to follow, i. e., never to let any gas flow until oscillations on

the manometer are obtained. Should the needle still appear blocked, the sterile stylet may be run through it repeatedly. Pinching off the gas tube while the other hand forcibly presses the tube between its closed point and the needle, may dislodge the fluid but this carries with it a certain hazard, for on several occasions there have been symptoms of gas embolism, not resulting fatally, however, following this procedure. A pronounced movement in the manometer when the patient is made to cough is a safe permit in my experience, to allow the cautious entrance of gas. Rubber gloves are advisable, a light-weight household type answering the purpose. Used only for clean pneumothorax work the gloves need not be boiled at every sitting; instead, when drawn on the hand, they can be thoroughly scrubbed several times with soap in running water. If, inadvertently, the shaft of the needle be touched, it must be wiped with alcohol-saturated cotton.

Rest.—Absolute bedrest is to be carried out through the early period of the course of pneumothorax treatment, but this period becomes materially shorter than when rest alone is used.

Binder.—A firm stout binder to the chest after the earlier treatments gives comfort and support. This is readily made by taking a square of unbleached muslin 3 by 4 feet and folding in the long diameter to four thicknesses. It is fastened snugly around the chest with safety pins and with a strip of bandage material to form the shoulder-strap, is complete.

Screening.—Fluoroscopic examination in the ordinary case can be dispensed with in the first few months. Ease of gas admission taken with the manometric readings tells the story of the progress of collapse pretty well. Changes in the physical signs and the course of clinical improvement add to this knowledge. Fluid formation in the pneumothorax cavity indicates itself by the succussion splash; an amount so small as not to give this sign is scarcely of clinical importance. The volume of large quantities of fluid can be fairly well estimated by the difference in the shifting of dulness with the chest in the vertical and horizontal positions. Visits to the roentgenologist can be made when sufficient improvement has taken place.

It is not asked that every practitioner of medicine attempt the administration of pneumothorax. Obviously, by reason of the insufficiency of suitable case material, all could not

acquire the proficiency and attention to detail so necessary. But, it is of the essence of this writing that all of those practicing medicine should know when collapse therapy should be or might be applied, and have nearby practical for its home application a man capable of carrying out the treatment to a successful conclusion. To make the latter an actual state of affairs, men who have acquired training should not be concentrated at a few large centers but be distributed through small divisions of the states, perhaps an operator in each of one to four counties, as density of population dictates.

Before closing, my thanks must be given to Dr. L. C. Boisliniere and to Dr. A. E. Taussig for their generous guidance in the early days of pneumothorax treatment. All of us freely express our appreciation to Dr. Taussig as the man who first brought the surgical treatment of pulmonary tuberculosis to this section of the United States.

CONCLUSION

The tuberculosis problem must be handled in the home because 90 per cent of it is located there. Running to a vast multitude, these sick people should receive the help and consideration their number demands. To this end the more extensive use of pneumothorax is pleaded for, and in particular its much earlier use. Collapse therapy's importance in the campaign for public health can be realized only in terms of its power to eliminate from the community the carriers of infection of the most prevalent preventive disease in the civilized community.

3606 Gravois Ave.

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DISCUSSION

Dr. Albert E. Taussig, St. Louis: It is a great privilege to be asked to discuss Dr. Schlenker's timely and interesting paper. Since Forlanini first introduced artificial pneumothorax in the treatment of pulmonary tuberculosis a vast mass of experience has been accumulated. As a result, our indications for this procedure have been greatly enlarged and in both directions. On one hand, it is clear that many more of the early cases should have this treatment; on the other hand many advanced and even bilateral cases may benefit greatly from it. It is obvious that not all these cases can be hospitalized nor is it entirely desirable that they should be. If proper care can be given them at home, many consumptives are far happier there and do at least as

well as in a sanatorium; nor is it necessary that the method be left entirely in the hands of the lung specialist. The bulk of our consumptives must still be treated by the general practitioner and if he is to obtain the best results it is necessary that he use artificial pneumothorax far more generally than he does.

If artificial pneumothorax is to be used in the home, a certain simplification of the procedure is advisable. The first requisite is a compact and portable apparatus. Two of the very best have been devised by our own colleagues, Drs. J. J. Singer and Selig Simon. Dr. Simon's apparatus in particular is a miracle of simplicity and compactness, being not much larger nor heavier than an ordinary surgical satchel. Another simplification is in the method of asepsis. This is obviously as necessary in the home as in the hospital; but instead of practicing operating room asepsis we practice that in use in the bacteriological laboratory. The operator requires neither gown nor gloves; his hands do not need to be sterile though it is certainly nice to have them clean. The only portions of the apparatus that need to be sterile are the needles, which can be carried in a sterile test tube, and the air filter. The latter is merely a short glass tube partly blocked with a loose bit of cotton and armed at each end with a short piece of rubber tubing so that it can be attached on the one hand to the needle and on the other to the apparatus.

The patient lies on the side that is not to be collapsed with his arm over his head. A suitable site for the puncture is chosen and marked by pressing on the skin with the finger nail. The skin is then rubbed with tincture of iodine under which the finger nail mark is even more clearly visible than it was before. If care is taken not to touch the field of operation and if nothing is allowed to touch the needle itself, adequate asepsis is assured. In some cases local anesthesia is desirable but it is not at all necessary.

The choice of a needle is important. A fine needle is more agreeable to the patient and causes less trauma to the pleura but has the disadvantage that a trace of moisture will block its lumen so that the manometer fails to register. A very coarse needle avoids this handicap but has the disadvantage that it causes unnecessary trauma. The ordinary Wassermann needle represents a good compromise; two inches is an ample length for all but fat people.

After the first two fillings the air injections need to be done only at longer and longer intervals so that finally a refill every four or five weeks suffices. During the first months the patient should have complete bed rest. If they do well twenty-four hours in bed after each injection suffices and during the second year it is quite practicable to have them come to the office for a refill.

Dr. Louis C. Boisliniere, St. Louis: First of all I want to reiterate what Dr. Schlenker said as to the debt of gratitude the profession owes to Dr. Taussig, who was the first to bring artificial pneumothorax to St. Louis, and also to register my personal appreciation and that of the authorities at Mount St. Rose of the kindness of Dr. Taussig who came all the way down to that institution for several months and thoroughly demonstrated to us this most beneficent procedure. That was in 1913, nineteen years ago. At that time artificial pneumothorax was done nowhere in the Middle West so far as I know, and in only a few places in the East as well as in the West was it carried out. It was only after a number of years that the great value of this pro-

cedure was recognized and adopted universally in all sanatoria in properly selected cases. We had to feel our way and soon learned that relaxotherapy and not complete collapse therapy was the desideratum: that it was effective even when the contralateral lung was not too extensively involved. The technic became more standardized.

What impressed me most by what Dr. Taussig and Dr. Schlenker said was their insistence upon the most meticulous care with which a pneumothorax should be induced. The technic must be perfect. Most accidents are due to faulty technic and lack of alert appreciation of the possible dangers and accidents. One man of vast experience states that he never does a pneumothorax without the thought that a possible mortality may occur. With proper technic and good judgment the possibilities of mishaps are reduced to a minimum if not entirely obviated.

I am sure Dr. Schlenker does not want you to infer that patients cannot get well without pneumothorax. They can and do under the usual regimental procedures; but when it is indicated the sooner pneumothorax is induced the better it is, both economically and physically for the welfare of the patient.

Dr. Lawrence Schlenker, St. Louis: Dr. Taussig mentions the method of some European clinics in administering pneumothorax to outpatients. Through the first six months, as a minimum, the patient under pneumothorax treatment should be at absolute rest. This seems both sound and safe. Visiting the physician at his office or clinic can hardly be called a part or parcel of absolute rest. Later, when the thoracic organs have accommodated themselves to the changed condition in the chest, and if the patient has regained his strength and the normal afebrile state, office treatment is eminently practical.

Dr. Boisliniere is entirely correct, people did get well of tuberculosis long before pneumothorax treatment was thought of. At the same time, standing by at the termination of the consumptive, one cannot help but feel in many cases that the patient could have been saved had collapse therapy been used in time. Biologically, there will always be a percentage of the tuberculous whom no treatment can save, their gene having determined a body which offers too little resistance to the tubercle bacillus. However, I believe this percentage to be small and if our theories are correct the number will grow smaller as the partial immunity of the race increases through its tuberculinization. There is more tuberculosis current in the civilized community than there is of any other preventable disease and I am sure much more could be done for it. When to consider collapse therapy seriously seems to be largely a question of when is tuberculosis "early."

MENTAL HEALTH

Mental hygiene is vastly important in the proper development of a normal individual. Compulsion neurosis is a sense of guilt and fear acquired in childhood connected with some feeling of having to do something in expiation of the fancied source of the sense of guilt. Reassurance and interest in other things is a cure if the compulsion is not severe. In severe cases an understanding of the cause of the condition is necessary, the Question and Answer department of *Hygeia* informs a reader.

CANCER SURVEY OF ST. LOUIS AND ST. LOUIS COUNTY, MISSOURI, 1931 *

CLARENCE COOK LITTLE, Sc.D.

NEW YORK CITY

INTRODUCTION

Periodically for several years the state chairman of the American Society for the Control of Cancer for Missouri, Dr. Ellis Fischel, together with the St. Louis Committee, has conducted educational campaigns for the purpose of bringing to the attention of the medical profession and the community pertinent facts about cancer and methods for its control.

These campaigns have been concerned primarily with arousing an intelligent interest in the subject of cancer, particularly among people in those age groups in which it most commonly occurs. The profession participated in this work to the extent of making addresses and giving talks before civic groups and clubs, broadcasting over the radio and similar activities. During these campaigns the scientific aspects of cancer were usually presented at a meeting of the St. Louis Medical Society.

This interest in the subject of cancer culminated for the profession in the passage of a resolution at a regular meeting of the St. Louis Medical Society on December 2, 1930, in which certain specific declarations regarding cancer were set forth and concluded with a request to the American Society for the Control of Cancer for a survey of St. Louis. The text of this resolution follows:

Resolution on Cancer Survey of St. Louis, Mo.

WHEREAS, The rapid increase of cancer in its various forms is assuming alarming proportions, now being second only to heart disease as a cause of death; and

WHEREAS, The present cancer situation is a challenge to the medical profession to render an increasingly effective service in its diagnosis and treatment; and

WHEREAS, The greatest hope for reducing the increasing mortality from this disease lies in diagnosis and treatment in early stages; and

WHEREAS, The medical profession and the hospitals are the only forces capable of coping with the cancer problem at this time; and

WHEREAS, There is a need for further education of the medical profession and the public as to the need for and value of early diagnosis and early adequate treatment; and

WHEREAS, A constructive program of improved cancer service can be based only on accurate infor-

* This survey was made by the American Society for the Control of Cancer, New York City, at the joint request of the St. Louis Medical Society and the St. Louis County Medical Society. Dr. Little is managing director of the American Society for the Control of Cancer. The report of the survey was prepared by Dr. Frank Leslie Rector, Evanston, Illinois, field representative.

mation as to present professional and institutional facilities for the treatment of this disease; therefore be it

Resolved, That the St. Louis Medical Society approve and sponsor a survey of the cancer situation in St. Louis and the immediate vicinity, and that the American Society for the Control of Cancer be requested to make such a survey at its convenience, reporting its findings with recommendations to this Society.

Following the passage of this resolution, the cooperation of the St. Louis Health Department was requested and heartily given by Dr. Max C. Starkloff, health commissioner. Dr. Starkloff had long been impressed with the constantly mounting mortality from this disease and, as noted in the following letter, offered full cooperation in the survey.

DEPARTMENT OF HEALTH

St. Louis, Mo., Dec. 3, 1930

Dr. Ellis Fischel,
Chairman, State of Missouri,
American Society for the Control of Cancer,
Metropolitan Building, St. Louis, Mo.
Dear Dr. Fischel:

I note that the St. Louis Medical Society has approved and sponsored a survey of the cancer situation in St. Louis and immediate vicinity, and that the American Society for the Control of Cancer has been requested to make such a survey.

This resolution is not only timely, but I deem it most essential and urgent that a survey be made of the cancer situation in St. Louis and vicinity in the interest of public health. I am thoroughly convinced that it will be of unusual benefit to the citizens who may be so afflicted, and from a health standpoint its value cannot be estimated.

In this connection, I would like to tender my office in the Municipal Courts Building to the Society, and assure you that I will render all possible assistance at my command to make this survey a success.

Very truly yours,
(Signed) MAX C. STARKLOFF,
Health Commissioner.

Later, the St. Louis Health and Hospital Council, an organization representing fifty-six health organizations and hospitals in the city, approved and endorsed the survey by the passage of the following resolution:

WHEREAS, The American Society for the Control of Cancer is making a survey in the City of St. Louis; and

WHEREAS, The City Health Department and the St. Louis Medical Society are endorsing this survey; therefore be it

Resolved, That the St. Louis Health and Hospital Council endorses the cancer survey as it is being made.

It is thus seen that this work was carried on with the endorsement and cooperation of all the organizations and institutions in St. Louis whose activities in any way touched upon the cancer problem. In the prosecution of this work, the fullest possible cooperation was given by every individual and institution approached.

The members of the medical profession were most generous in the time given and interest shown in the work. The medical schools of St. Louis University and Washington University, as represented by the deans and faculty members whose work was related in any way to cancer, were most helpful. The hospitals of St. Louis which receive and treat cancer patients responded generously to requests for statistical and other information regarding these cases.

The facilities of the health department were placed at the Society's disposal and representatives of the department were most helpful in mailing the post card questionnaire to the licensed physicians of St. Louis.

The unofficial health and welfare agencies, particularly the Visiting Nurses Association and the Provident Association, rendered valuable assistance in the survey.

The officers and employees of the St. Louis Medical Society placed the resources of that organization at the society's disposal and were most cooperative and helpful throughout the work.

The assistance of the above mentioned institutions and organizations, without whose interest and cooperation this report would not have been possible, is gratefully acknowledged.

METHODS OF THE SURVEY

Previous to undertaking the detailed investigation, a preliminary visit was made to St. Louis and the work of the survey discussed with individuals and organizations most concerned with it. The following questionnaire and covering letter were sent to the hospitals in St. Louis asking for information regarding bed capacity, equipment, methods of handling cancer cases and statistics of their cancer experience during the previous year.

Covering Letter

January 3, 1931.

Upon request of the St. Louis Medical Society and the Department of Health of St. Louis, The American Society for the Control of Cancer is undertaking a survey of the hospital and medical facilities in that city for the diagnosis and treatment of cancer.

The survey will bring together for the first time in St. Louis information as to existing facilities for the diagnosis and treatment of cancer in its various forms, and should prove of benefit alike to the general community and those primarily interested in this disease.

From the data assembled a confidential report will be prepared for the medical society. The portions of this report referring to your hospital will be submitted to you for your consideration. Names of hospitals will not be used in the general report which will be adapted to educational purposes in the cancer field.

In order that this survey may be as comprehen-

side and valuable as possible, your cooperation is earnestly requested. The enclosed questionnaires, one copy being for your own files, require a minimum of statistical work, the majority of the questions being answered by yes or no.

It would be greatly appreciated if the completed questionnaire could be returned in the enclosed stamped envelope not later than January 17.

Anticipating your cooperation in this important work, I am,

Sincerely,
F. L. RECTOR, M.D.,
Field Representative.

Enclosures:
Two questionnaires
Self addressed envelope.

Questionnaire

AMERICAN SOCIETY FOR THE CONTROL OF CANCER

25 West 43rd Street, New York, N. Y.

HOSPITAL SURVEY OF CANCER FACILI- TIES IN ST. LOUIS, MO.

1. Name of hospital
2. Address of hospital
3. Superintendent's name
4. Total number of beds (excluding bassinets)
5. Number of beds available for cancer patients
6. Maximum voltage of X-ray machines
7. Number of milligrams of radium owned by the hospital
8. Has hospital a radium emanation plant?
9. Does hospital rent radium?
Purchase radon?
From where obtained?
10. Have you a laboratory properly equipped for tissue examination?
For making frozen sections for quick diagnosis during operation?
11. Is the pathologist in charge a physician?
12. Is the pathologist on full or part-time service?
13. If part-time, how many hours daily or weekly is he in attendance?
14. If there is no laboratory, where are tissues sent for examination?
15. Is the hospital affiliated with a teaching institution?
16. Which, if any, staff members specialize in treating cancer?
What particular form or forms?
17. Have you an outpatient department equipped and staffed to diagnose cancer?
18. Number of cancer patients in outpatient department in 1930?
19. Are cancer patients subjected to group study by staff?
20. Has hospital a social service department?
21. Is the status of all cancer patients known five years after discharge?
22. How much money was spent in cancer research in your hospital in 1930?
23. Do you need additional funds for cancer work?
If so, how much and for what purpose?
24. Number of adult patients admitted to hospital in 1930?
25. Number of cancer patients admitted to hospital in 1930?
26. Names of staff members attending these patients?
27. Number of all hospital deaths in 1930?
28. Number of cancer deaths in 1930?

29. Number of autopsies performed in 1930?
30. Number of cancer autopsies performed in 1930?
31. An *early case of cancer* is designated as one in which the lesion is undoubtedly local, with no apparent extension to deeper structures and with no enlargement of adjacent lymph nodes. How many cases of *early cancer* were admitted to your hospital in 1930?

Signed by _____

Date _____ Official position _____

In addition to the questionnaire sent to the hospitals, a return post card inquiry was sent to every licensed physician in St. Louis, briefly outlining the purposes of the survey and asking for information regarding the number of cancer patients seen during the previous year and the number now under treatment. Copy of the questionnaire follows:

ST. LOUIS CANCER SURVEY

January 15, 1931.

Dear Doctor:

As a part of the cancer survey of this city being made by the American Society for the Control of Cancer at the request of the St. Louis Medical Society and the St. Louis Department of Health, a daily census of cancer patients under treatment by the medical profession is being taken as of January 15, 1931.

You can aid materially in this census by returning the attached post card with the information asked for at your earliest convenience. *Identity of physicians replying will be respected.*

Thanking you for your cooperation, I am

Sincerely,
F. L. RECTOR, M.D., Field Representative,
American Society for Control of Cancer.

Number of cancer patients under observation and treatment January 15, 1931 _____.

Number of new cancer patients seen during 1930 _____.

Do you know the present health status of all your old cancer patients? _____.

What percentage of your old cancer patients is known to be alive five years after treatment? _____

Signed _____.

Address _____.

Each hospital contributing to the survey was visited by the Society's Field Representative and cancer problems discussed with the superintendent, social worker, pathologist and radiologist when available. The physical equipment of the hospital, particularly the surgical, pathological and X-ray equipment, was inspected.

Some time was spent in discussing cancer problems with different physicians known to be particularly interested in cancer work and with the deans and members of the faculties of the two medical schools. Hospital staff meetings were also attended and different phases

of cancer work discussed with those present.

The collected information and statistical material have been analyzed and form the body of this report.

HISTORICAL

The city of St. Louis was first settled as a trading post in 1764 by Pierre Laclede Liguist, a Frenchman, who claimed a large territory in that vicinity for the French Government. In 1767 this trading post had a population of approximately five hundred people, mostly French, Indians and English traders. However, it soon fell under the control of the Spaniards who had pushed up the Mississippi River from New Orleans. They remained in possession from 1770 to 1804, until the acquisition of this territory by the Federal Government as a part of the Louisiana Purchase.

St. Louis was incorporated as a town in 1808 and as a city in 1823. Because of its strategic position on the Mississippi River near the mouth of the Missouri River it became a thriving commercial center for the entire mid-west and northwest. From earliest times it enjoyed a wide reputation as a fur market as the surrounding country contained large numbers of valuable fur-bearing animals.

Medically, St. Louis has had an interesting history. Dr. Andre Auguste Conde came to St. Louis October 20, 1765, and was the first physician to locate in what is now the State of Missouri. Dr. Bernard G. Farrar was the first American born physician to practice in St. Louis. Dr. William M. McPheeters was also one of the early pioneers in medicine in this vicinity.

St. Louis has always been rich in medical tradition and has contributed some of the most outstanding names to the history of scientific medicine in America. Among these, two stand out as world renowned characters—Dr. John Thompson Hodgen who perfected the splint which has since borne his name, and Dr. William Beaumont who made the most detailed and accurate observations on the physiology of digestion ever recorded upon the human subject. His contributions stand in the forefront of scientific achievements in the field of medicine and they are all the more remarkable when it is considered that his observations were made a hundred years ago with none of the scientific equipment which is available for a similar investigation today.

The first hospital in St. Louis was opened in 1828 by the Catholic Sisters of Charity and was financed by John Mullanphy. Since that time his name has been attached to a hospital in St. Louis and only within a year has it been merged into the new DePaul Hospital on North Kingshighway Boulevard.

The first medical school in St. Louis was opened in 1840 by Joseph Nash McDowell as the medical department of Kemper College. Since that time a large number of medical schools has risen, flourished, and passed into history, or has been absorbed into the two existing medical schools as departments of St. Louis University and Washington University.

Because of the constant traffic between New Orleans and other southern cities and St. Louis, the city was ravished frequently by epidemics of cholera, yellow fever, and other diseases. The first cholera epidemic originated in January, 1849, and before it subsided, had carried away large numbers of inhabitants. As was usual in those times, these epidemics were attributed to contamination of the atmosphere, to indiscretions in diet and similar causes. It is interesting to note, however, in the reports of these epidemics left by medical writers of the time, constant reference to "unknown morbid agents" to which they attributed a causative relationship to the disease. In the light of present knowledge, it seemed that some practitioners of medicine, even at that early date, had almost within their grasp a true conception of the etiology of infectious disease.

At the present time there are approximately 1750 licensed practitioners in St. Louis. It is abundantly supplied with modern hospitals for all types of patients and serves a large surrounding territory with modern medical facilities and professional abilities. The two medical schools rank among the best to be found in this country and both of them are well housed and well equipped for medical educational purposes.

STATISTICS

Population.—According to the Federal Census for 1930 the City of St. Louis has a population of approximately 822,000. As a hospital and medical center, however, it serves a much larger population, the metropolitan area surrounding the city in both Missouri and Illinois contributing approximately 450,000 additional population, largely dependent on the city for hospital service. The increase in population from 1890 by five-year periods is shown below:

Year	Population
1890	460,000
1895	560,000
1900	575,200
1905	695,000
1910	687,029
1915	788,000
1920	772,807
1925	821,543
1930	822,000

The composition of the population of St. Louis by age groups reveals that an increasing percentage is thirty years or more of age. This may be of some significance in the larger cancer mortality found in St. Louis than in some

PERCENTAGE DISTRIBUTION OF POPULATION IN CERTAIN CITIES BY AGE GROUPS
1910 and 1920

Age Groups	St. Louis		Baltimore		Boston		Cleveland		Detroit		Pittsburgh		San Francisco	
	1910	1920	1910	1920	1910	1920	1910	1920	1910	1920	1910	1920	1910	1920
- 5	8.7	7.6	9.3	9.5	9.5	9.5	11.1	11.1	10.5	11.3	10.8	10.5	7.1	6.4
5-9	8.1	7.9	8.9	8.8	8.5	8.8	9.1	9.9	8.7	8.9	9.1	9.8	6.1	6.6
10-14	8.2	8.1	8.7	8.4	8.2	8.2	8.4	8.5	8.1	6.9	8.7	8.9	6.1	6.3
15-19	9.7	8.2	9.7	8.4	8.3	7.6	9.3	7.4	9.3	7.1	9.5	8.2	7.8	6.9
20-24	11.2	9.6	10.5	9.9	10.1	9.1	11.2	9.4	12.1	11.1	10.8	9.2	11.2	9.1
25-29	10.6	10.3	9.7	9.9	10.1	9.7	11.1	11.1	11.3	13.2	10.7	9.8	12.4	10.6
30-34	9.3	9.3	8.2	8.5	9.1	8.5	9.2	9.9	9.1	11.1	9.1	8.7	11.2	10.4
35-39	8.3	8.8	7.7	8.1	8.8	8.2	7.9	8.9	7.6	9.1	8.1	8.4	9.5	10.4
40-44	6.9	7.4	6.6	6.6	7.2	7.1	6.3	6.5	6.2	6.1	6.4	6.8	7.8	8.5
45-49	5.7	6.5	5.7	6.1	5.9	6.6	5.1	5.4	5.1	4.8	5.1	5.9	6.2	7.2
50-54	4.4	5.4	4.7	5.1	4.6	5.4	3.9	4.1	4.1	3.6	4.1	4.7	4.7	5.8
55-59	2.9	3.9	3.3	3.6	3.2	3.8	2.5	2.7	2.7	2.5	2.6	3.2	3.1	4.1
60-64	2.2	2.9	2.6	3.1	2.6	3.1	2.1	2.1	2.1	1.9	2.1	2.5	2.6	3.1
65-74	2.7	3.1	3.1	3.2	2.9	3.2	2.2	2.1	2.4	1.8	2.2	2.5	2.8	3.1
75-84	.9	1.1	1.1	1.1	1.1	1.1	.7	.7	.8	.6	.6	.8	.9	1.1
85-94	* .1	* .2	* .1	* .1	* .1	* .2	* .1	* .1	* .1	* .1	* .1	* .1	* .1	* .1
95-up	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Unknown	2	.1	.1	*	.1	.2	.1	.1	.2	.1	.2	.1	.9	.6
30 years and above	43.6	48.5	43.1	45.1	45.4	47.3	39.9	42.6	40.3	41.6	40.4	43.7	49.7	54.2

* Less than .1.

other cities of comparable size. The following table is an analysis of the age distribution in St. Louis and certain other cities for the years 1910 and 1920. Similar figures from the 1930 census are not yet available.

A similar analysis of the population of Missouri and four other states is shown in the following table. The marked similarity in age distribution, both in cities and in their states, is seen by these tables. The percentage of the population of the states and cities represented in these tables is seen graphically in charts 1, 2, 3.

About 12 per cent of the population of St. Louis is colored. The principal racial groups other than American are German, Italian, Irish, Russian, Austrian, and Polish.

Cancer Deaths.—In keeping with experience in other states and other countries, the number of cancer deaths in St. Louis shows a marked annual increase, much greater than the increase either in the population as a whole or in that portion of the population in the cancer age period, age 30 and above. In 1910 the

cancer death rate in St. Louis was 86 per 100,000 population; in 1920 it was 109 per 100,000 population, and in 1930 it was 144 per 100,000, an increase of 21.1 per cent in the decade 1910 to 1920, and of 32.1 per cent in the decade 1920 to 1930. The increase in population during the decade 1910 to 1920 was but 11 per cent, and between 1920 and 1930 the population increase amounted to but 6 per cent. The cancer death rate increased twice as much in the decade 1910 to 1920 and five times as much in the decade 1920 to 1930. The increase in the population of St. Louis, age 30 and above, amounted to but 9 per cent during the decade 1910 to 1920, and cancer, almost exclusively a disease of this same period, increased 21 per cent. The age distribution of the 1930 census is not yet available, but there is no reason to suspect that it will in any way approach the 32 per cent increase in the cancer death rate noted for the past decade. Further evidence to substantiate this statement is seen by the fact that an increasing percentage of total deaths in St. Louis is attributed to cancer.

PERCENTAGE DISTRIBUTION OF POPULATION BY AGE GROUPS IN CERTAIN STATES
1910 and 1920

Age Groups	Missouri		Massachusetts		Maryland		Michigan		Wisconsin	
	1910	1920	1910	1920	1910	1920	1910	1920	1910	1920
- 5	10.9	9.6	9.8	10.1	10.6	10.1	10.6	11.1	11.1	10.8
5-9	10.3	9.9	8.8	9.3	10.3	9.9	9.8	10.1	10.6	10.5
10-14	9.8	9.8	8.5	8.7	10.1	9.6	9.2	8.9	10.5	9.9
15-19	10.1	9.1	8.8	7.8	9.9	9.1	9.5	8.1	10.4	9.1
20-24	9.7	8.6	9.7	8.5	9.5	9.2	9.4	8.6	9.5	8.7
25-29	8.7	8.5	9.3	8.9	8.5	8.6	8.6	9.4	8.5	9.3
30-34	7.5	7.6	8.3	8.1	7.4	7.6	7.5	8.5	7.1	7.6
35-39	7.1	7.4	8.1	7.7	7.1	7.3	6.8	7.6	6.4	7.1
40-44	5.9	6.3	6.8	6.7	6.1	6.2	6.1	6.1	5.7	5.8
45-49	5.1	5.8	5.7	6.3	5.2	5.8	5.4	5.4	5.2	5.2
50-54	4.4	4.9	4.8	5.3	4.6	4.8	4.8	4.5	4.5	4.5
55-59	3.2	3.8	3.4	4.1	3.3	3.6	3.7	3.6	3.3	3.8
60-64	2.6	3.2	2.8	3.2	2.7	3.1	3.1	3.1	2.5	3.2
65-74	3.3	3.8	3.6	3.7	3.4	3.6	3.9	3.6	3.4	3.7
75-84	1.1	1.4	1.4	1.4	1.1	1.3	1.4	1.4	1.4	1.4
85-94	.2	.2	.2	.2	.2	.2	.2	.2	.3	.3
95-up	*	*	*	*	*	*	*	*	*	*
Unknown	.2	.1	.1	.1	.1	.1	.1	.1	.1	.1
30 years and above	40.4	44.5	45.2	46.6	41.2	43.5	42.8	44.0	39.8	42.6

* Less than .1.

Chart 1
PERCENTAGE OF POPULATION
AGE 30 AND ABOVE

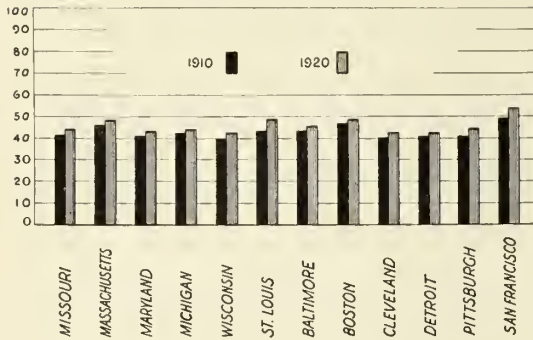
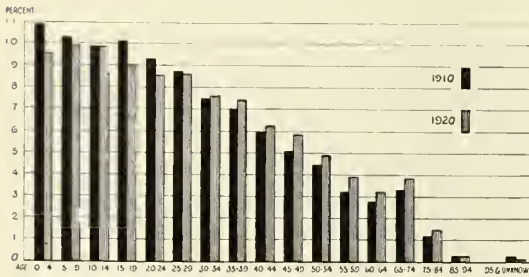
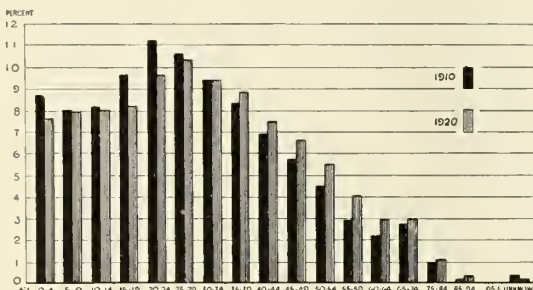


Chart 2



MISSOURI
Age distribution of Population, 1910-1920

Chart 3



ST. LOUIS
Age distribution of Population, 1910-1920

The salient features of this situation are shown by the following table:

Year	Total Number Deaths	Number Cancer Deaths	Per Cent of All Deaths Represented by Cancer
1890	8,409	263	3.1
1895	9,425	268	2.8
1900	9,847	345	3.5
1905	10,342	419	4.0
1910	10,927	594	5.4
1915	10,269	669	6.5
1920	10,955	845	7.8
1925	11,379	1,007	8.8
1930	11,463	1,187	10.3

From this table it is noted that whereas the population of St. Louis has not quite doubled during the period 1890 to 1930 (+60,000 in 1890 and 822,000 in 1930), the number of

cancer deaths has risen from 263 to 1187, an increase of about 450 per cent; and what is equally significant, the percentage of total deaths represented by deaths from cancer during this same period has increased from 3.1 per cent to 10.3 per cent, an increase of more than 330 per cent.

When the percentage of cancer deaths in the group age 30 and above is determined for all deaths age 30 and above in St. Louis, this fact is again prominently brought out over a period of years. In 1910 the percentage of cancer deaths to total deaths, age 30 and above, was 8.3. By 1920 this had risen to 10.9, and in 1928 to 11.9. A similar increase was noted in other cities comparable in size to St. Louis. The relationship was also established for Missouri as a whole and for some of the other states containing the cities compared with St. Louis. Details of this study are shown in the following tables and chart 4.

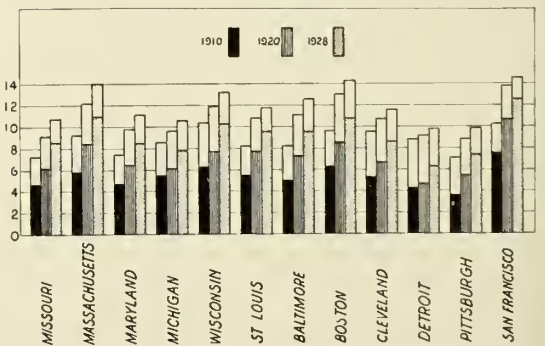
TABLE SHOWING THE PERCENTAGE OF ALL DEATHS REPRESENTED BY CANCER
1910, 1920, 1928

State and City	1910	1920	1928
Missouri	4.5	6.16	8.5
Massachusetts	5.8	8.3	10.9
Maryland	4.5	6.4	8.4
Michigan	5.4	6.	7.8
Wisconsin	6.2	7.8	10.1
St. Louis	5.45	7.7	9.5
Baltimore	5.	7.2	9.5
Boston	6.1	8.4	10.6
Cleveland	5.1	6.7	8.6
Detroit	4.3	4.6	6.3
Pittsburgh	3.6	5.4	7.3
San Francisco	7.5	10.6	12.5

TABLE OF THE PERCENTAGE OF ALL DEATHS, AGE 30 AND OVER REPRESENTED BY DEATHS FROM CANCER, AGE 30 AND OVER
1910, 1920, 1928

State and City	1910	1920	1928
Missouri	7.36	9.2	10.9
Massachusetts	9.4	12.27	14.04
Maryland	7.64	9.9	11.26
Michigan	8.6	9.6	10.75
Wisconsin	10.4	11.9	13.04
St. Louis	8.3	10.9	11.9
Baltimore	8.26	11.12	12.5
Boston	9.62	13.	14.13
Cleveland	9.56	10.81	11.5
Detroit	8.87	9.13	9.79
Pittsburgh	7.09	8.8	9.97
San Francisco	10.12	13.7	14.3

Chart 4



SHADED PORTIONS indicate percentage of total mortality represented by cancer deaths. UNSHADED PORTIONS, additional percentage of mortality, age 30 and above, represented by cancer deaths, age 30 and above.

The actual increase in cancer was discussed by the Bureau of the Census in Mortality Statistics for 1920. On page 80 it is stated that

The contention that cancer is not actually, but only apparently, increasing seems no longer tenable. Better diagnoses undoubtedly account for part of the increase shown but not for all of it. Figures for England and Wales, compiled by Dr. T. H. C. Stevenson and published by the Registrar-General's report for 1917, clearly established an actual increase in mortality from cancer of accessible sites and our own figures presented in 1920 Mortality Statistics confirmed Dr. Stevenson's findings. For example, for females in the registration states of 1900, the 1900 adjusted death rate from cancer of the breast per 100,000 population female was 9.2 and the 1920 adjusted rate was 16.9, an increase of 84 per cent. For a site so accessible it is inconceivable that the difference in the above rates could possibly be due to difference in diagnostic power.

As a further example of the importance of cancer in the social and economic life of a community, it should be pointed out that the deaths from cancer in Missouri in 1929 exceed by 93 the combined number of deaths from the following causes: typhoid fever, malaria, measles, scarlet fever, whooping cough, diphtheria, influenza, dysentery and automobile accidents.

Cancer	3,935	
Typhoid fever		180
Malaria		153
Measles		106
Scarlet fever		90
Whooping cough		238
Diphtheria		192
Influenza		2,084
Dysentery		93
Automobile accidents		706
TOTAL	3,935	3,842

Cancer since 1927 has occupied second place as the cause of death in the registration area of the United States. It is surpassed only by heart disease. The following table, taken from the Bureau of the Census, shows the number of deaths due to cancer annually since 1920 and the percentage of all deaths represented by cancer during this period.

TABLE OF CANCER DEATHS IN REGISTRATION AREA AND PERCENTAGES OF ALL DEATHS REPRESENTED BY CANCER

Year	Number of Cancer Deaths	Percentage of All Deaths
1920	71,756	6.4
1921	75,113	7.4
1922	78,355	7.5
1923	81,505	7.3
1924	85,241	7.9
1925	88,623	8.0
1926	92,500	7.9
1927	95,103	8.6
1928	99,000	8.3
1929	111,562	8.0

The above figures indicate a slight regression in the number of cancer deaths compared to all deaths, but it is too slight to have any special significance at this time. The cancer death rate per 100,000 population in the registration area has shown an increase during the years 1926 to 1929. These rates together with similar figures for Missouri and St. Louis are shown in the following table:

COMPARATIVE CANCER DEATH RATES IN THE UNITED STATES REGISTRATION AREA, MISSOURI, AND ST. LOUIS

Cancer Death Rate Per 100,000

Year	Registration Area, U. S.	Missouri	St. Louis
1926	95.3	100.17	133.
1927	95.9	105.47	128.
1928	96.2	109.17	131.
1929	96.0	108.93	132.

These rates taken from the United States Census reports are crude rates. Adjusted rates show but slight change and for the purposes of this survey are not as significant as are the crude rates which show a more accurate picture of the number of cancer cases treated in the community. Even though many of these cases reside elsewhere, they go to St. Louis to obtain treatment, and form a part of the load carried by the cancer treatment facilities of that city.

The 1930 cancer mortality for St. Louis by age groups and site of lesion are indicated in the following table:

CANCER MORTALITY IN ST. LOUIS, 1930, BY AGE AND SITE

Age	Buccal	Stomach, Liver	Peritoneum, Intestines, Rectum	Female Genitals	Breast	Skin	Not Otherwise Classified	Total
Under 5							2	2
5-9							4	4
10-14		1					1	2
15-19								
20-24		1					2	3
25-29		2	4	2			4	12
30-34		4	5	6	3		8	26
35-44	1	16	19	41	10		20	107
45-54		71	56	51	27	3	78	286
55-64	1	100	81	33	26	1	103	345
65-74	1	91	60	32	22	1	90	297
75-up		34	22	8	4	1	34	103
TOTAL	3	320	247	173	92	6	346	1,187

This distribution follows closely that of other communities and presents nothing of a striking or unusual character. The fairly even distribution of cancer deaths by months, as noted in the following tables, shows nothing

unusual unless it be that the largest number of deaths for July may have some relation to the excessive heat wave experienced during that month. The fact that the months of August and September showed the lowest cancer mor-

CANCER MORTALITY IN ST. LOUIS, 1930, BY MONTH AND AGE

Age	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Under 5		1		1									2
5-9		2	1					1					4
10-14						1				1			2
15-19													
20-24	2			1									3
25-29		1		2	2	1	3		1		1	1	12
30-34	1	1	3	1	1	5	1	1	1	4	5	2	26
35-44	12	9	12	7	5	9	13	7	5	10	9	9	107
45-54	26	28	32	24	22	27	24	16	24	21	20	22	286
55-64	35	26	17	36	26	25	30	26	20	37	34	33	345
65-74	23	26	24	26	25	27	27	31	22	21	22	23	297
75-up	3	8	8	5	8	14	14	8	5	8	15	7	103
TOTAL	102	102	97	103	89	109	112	90	78	102	106	97	1,187

CANCER MORTALITY IN ST. LOUIS, 1930, BY MONTH AND SITE

Site	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Buccal	1		1										3
Stomach, Liver	21	24	31	34	30	33	26	22	19	20	31	29	320
Peritoneum, Intes-													
tines, Rectum	18	19	11	19	14	22	24	18	30	29	20	23	247
Female Genitals	16	18	20	12	13	18	17	16	5	13	13	12	173
Breast	5	3	8	13	8	11	7	5	4	13	11	4	92
Skin	3		1					1			1		6
Not otherwise													
classified	38	38	25	25	24	24	38	28	20	27	30	29	346
TOTAL	102	102	97	103	89	109	112	90	78	102	106	97	1,187

tality of any of the months, whereas July showed the highest, gives some weight to this possibility.

According to the records of the City Health Department, 1,078 of the cancer deaths for 1930 occurred among whites and 109 among Negroes. By sex the deaths among whites were fairly equal, being 512 in males and 566 in females. Among the Negroes the proportion was two females to each male, there being 36 deaths among the males and 73 among females. Similar figures for Missouri for 1929 show that 3,715 white persons and 220 colored persons died of cancer. Of the white deaths, 1,742 were males and 1,973 females. Of the colored deaths, 84 were males and 136 females. It was thus seen that while in St. Louis 9 per cent of the cancer deaths were in the colored race, a proportion about equal to their relative numbers in the population, only about 5 per cent of the cancer deaths in the state as a whole were among Negroes.

The best estimates now available indicate

that for each cancer death there are at least three living cases. On this basis the 1,187 deaths from cancer reported to the St. Louis Health Department for 1930 would represent at least 3,600 living cases in the city. From no source investigated during this survey was it possible to definitely allocate that number of cancer cases in St. Louis.

Hospital Cancer Cases.—The number of cancer patients treated in the reporting hospitals of St. Louis during 1930 was 2,380. Among this number 527 deaths occurred, a mortality of 22 per cent. Of these 527 deaths, 134, or 25.4 per cent, came to autopsy. The fact that relatively few of the cancer patients coming to hospitals for treatment have the disease in its early and most hopeful stage emphasizes the need for further education of the public and the medical profession regarding early diagnosis and treatment. The following table presents the distribution of cancer patients in St. Louis hospitals furnishing information for the survey:

BED CAPACITY, PATIENTS, DEATHS, AND AUTOPSIES IN CERTAIN ST. LOUIS HOSPITALS IN 1930 *

Hospital	Bed Capacity	Number Cancer		Patients		Deaths		Per Cent Cancer Deaths	Autopsies		Per Cent
		Capacity	Cancer Beds	Total	Cancer	Total	Cancer		All Deaths	Per Cent	
Alexian Bros.	250		25	1602	31	149	17	55.	22	14.7	41.
Barnard	40		40	660	593	32	27	4.5	8	25.	25.
Barnes (a)	270	n. s.		6025	342	277	62	18.1	153	55.	54.8
Christian	100	n. s.		1922	65	135	10	15.4	13	10.	20.
City Hospital No. 1	900		50	20790	310	1716	116	37.	114	6.6	13.
City Hospital No. 2	412	n. s.		5881	42	736	19	45.	112	15.2	26.
DePaul	250	n. s.		2473	48	104	18	37.5	19	18.2	16.6
Evangelical-Deaconess	140	n. s.		2354	74	145	24	32.	22	9.	33.3
Jewish	268	n. s.		4768	137	181	22	16.	52	28.7	31.8
Lutheran	156	n. s.		3069	90	204	26	29.	34	16.6	00
Missouri Baptist	459	n. s.		6071	167	321	47	28.	75	23.	25.
St. Anthony's	200	n. s.		2915	70	195	26	37.	27	13.	39.
St. John's	265	n. s.		4845	117	244	38	32.	44	18.	8.
St. Luke's	186	n. s.		4455	128	152	30	23.	31	20.	14.
St. Mary's (b)	555	n. s.		7311	166	395	45	27.	143	36.	87.7
TOTAL	4451		115	75141	2380	4986	527	22.	869	17.4	25.4

(a) Data are for 1929.

(b) Includes St. Mary's Infirmary and St. Mary's Dispensary.

n. s. Not specified.

* In addition Bethesda Hospital reported two cancer patients in 1930, the U. S. Marine Hospital reported five cancer cases, and the St. Louis Children's Hospital reported one case.

DISTRIBUTION OF CANCER CASES IN CERTAIN ST. LOUIS HOSPITALS BY SITE OF LESION—1930

Hospital	Buccal	Stomach, Liver	Peritoneum, Intestines, Rectum	Female Genitals	Breast	Skin	Not Otherwise Classified	Total
Alexian Bros.	2	8	4				15	29
Barnard	104	16	17	97	59	292	37	622
Barnes	34	56	24	84	25	1	118	342
Christian		9	4	17	10		22	62
City Hospital No. 2	1	12	6	7	8		7	41
Jewish	21	19	11	22	21	6	36	136
Lutheran	5	15	16	17	15		22	90
Missouri Baptist	3	18	25	36	26		59	167
St. Anthony's	1	3	7	8	11	1	16	47
St. John's	8	12	12	26	20	1	38	117
St. Luke's	3	26	11	11	16		69	136
Wash. Univ. Clinics	3	3	3	25	8		20	62
TOTAL	185	197	140	350	219	301	459	1,851

An analysis of cancer patients by site of lesion was supplied by certain hospitals. Details are shown in the above table.

Post Card Census.—Return post card questionnaires were sent to the licensed physicians of St. Louis, approximately 1750 in number. About 50 of these were returned immediately by the post office department because of incorrect address and for other reasons. Three hundred eighty-two cards, or 22.4 per cent, were returned by physicians. Of this number 163 physicians reported that they did not treat cancer or they had seen none during 1930, nor did they have under treatment at this time any cancer patients. Two hundred nineteen physicians reported that they had cancer patients under treatment on January 15, 1931, or had seen such patients during 1930. These physicians reported having seen 1,630 cancer patients during 1930. Their distribution was as follows:

4 do not know how many	
9 saw none	
65 saw 1 each	65
42 saw 2 each	84
30 saw 3 each	90
13 saw 4 each	52
16 saw 5 each	80
8 saw 6 each	48
1 saw 7	7
1 saw 8	8
7 saw 10 each	70
1 saw 11	11
4 saw 12 each	48
1 saw 15	15
2 saw 17 each	34
2 saw 18 each	36
1 saw 19	19
2 saw 20 each	40
2 saw 22 each	44
1 saw 30	30
1 saw 32	32
1 saw 41	41
1 saw 50	50
1 saw 111	111
1 saw 121	121
1 saw 186	186
1 saw 308	308
TOTAL	1,630

The number of cancer patients under treatment on January 15, 1931, by the 219 physicians reporting was 748. These were distributed among the various physicians as follows:

91 had none	
60 had 1 each	60
23 had 2 each	46
15 had 3 each	45
6 had 4 each	24
4 had 5 each	20
4 had 6 each	24
2 had 7 each	14
2 had 9 each	18
2 had 10 each	20
1 had 14	14
1 had 18	18
1 had 20	20
1 had 32	32
2 had 35 each	70
1 had 36	36
1 had 37	37
1 had 90	90
1 had 160	160
TOTAL	748

From the tables given above, it is noted that a large majority of the cancer patients in St. Louis is being seen by a small percentage of the physicians. Of the 1630 cases seen by 219 physicians in 1930, 1196, or 73 per cent, were seen by 30, or 13 per cent, of the physicians. Of the 748 cancer patients under treatment on January 15, 1931, by the 219 physicians, 497, or 66 per cent, were under the care of 12 physicians, or 5 per cent of those reporting.

Of the 219 physicians reporting cancer patients, only 123 knew the health condition of such patients after 5 years.

76 reported no living cases	
19 reported 10 per cent living	
9 reported 20 per cent living	
2 reported 30 per cent living	
4 reported 40 per cent living	
6 reported 50 per cent living	
1 reported 60 per cent living	
1 reported 70 per cent living	
2 reported 80 per cent living	
2 reported 100 per cent living	

Those reporting high percentages of living cases had but few patients, usually five or less, on which to base their estimation. Almost 50 per cent of those reporting did not know the status of their cancer patients five years after treatment.

While the number of cancer patients being treated by the physicians who did not respond to the post card is unknown, in the light of inquiries made during the survey it is believed

that a large percentage of the cancer patients in St. Louis is accounted for in the figures here given. It should be emphasized, however, that neither the figures reported by individual physicians nor those given by hospitals can be taken as in any way portraying a complete picture of the cancer situation in St. Louis. They only reflect the experience of the physician and the hospital by whom they were reported. In many cases, probably the same patient has been reported more than once. It is recognized that only by a house to house canvass would it be possible to determine the actual number of cancer patients in a given community. It is unfortunate that a larger number of the medical profession in St. Louis did not return the post card with the information requested, as the opportunity provided a rare one for obtaining fairly complete and authoritative information from the profession itself on a question that is assuming an increasing importance in medical practice throughout the country.

The distribution of cancer patients among the physicians of St. Louis is in practical agreement with information on the same subject elsewhere. In Massachusetts a careful survey of the incidence of cancer showed an average of two cases per physician at any given time. With a few physicians doing a large amount of cancer work, it becomes evident that many

physicians seldom see such cases in their private practice. For this reason they have little or no interest in cancer and when a patient is encountered with the disease, it is often overlooked or wrongly diagnosed. Instead of instituting adequate treatment early in the disease when there is the best possible chance to obtain a permanent cure, palliative measures are resorted to and expectant treatment given until the case becomes hopeless.

CANCER TREATMENT FACILITIES IN ST. LOUIS IN GENERAL

Hospitals.—While there is but one hospital in St. Louis, the Barnard Free Skin and Cancer Hospital, devoted exclusively to the treatment of cancer and allied diseases, all of the general hospitals receive and treat cancer cases. The total bed capacity of the hospitals furnishing data for this survey is 4450. Aside from the Barnard Hospital, all of whose beds are for cancer, but two other hospitals, Alexian Brothers and City Hospital No. 1, list any definite number of beds for cancer patients. All other hospitals report that cancer patients are received and treated in the regular wards. All of these hospitals are on the approved list of the American College of Surgeons as being adequately equipped for surgical work. Details of cancer facilities in this hospital group are shown in the following table:

CANCER TREATMENT FACILITIES IN SAINT LOUIS HOSPITALS

Hospital	Bed Capacity	Cancer Beds	Deep Therapy Voltage	RADIUM		Radon Used	LABORATORY		PATHOLOGIST		Teaching Affiliation	Outpatient Department	Social Service Department	Follow-up Service	Amount Spent in Cancer Research
				Owned Milligrams	Rented		Tissue	Frozen Sections	Physician	Full or Part Time					
Alexian Bros.	250	25	150 kv.	No	Yes	No	Yes	Yes	Yes	Part	Yes	Yes	No	No	None
Barnard	40	40	210	160	No	Yes	Yes	Yes	Yes	Full	No**	Yes	Yes	Yes	\$12,000
Barnes	270	n. s.	300	125	Yes	No	Yes	Yes	Yes	Full	Yes	Yes	Yes	No*	no data
Christian	100	n. s.	210	No	No	No	Yes	Yes	Yes	Part	No	No	No	No	None
City Hosp. No. 1	900	50	300	535	No	Yes	Yes	Yes	Yes	Full	Yes	Yes	Yes	No	None
City Hosp. No. 2	412	n. s.	160	(1)	(1)	(1)	(1)	(1)	(1)	(1)	Yes	(1)	(1)	No	None
DePaul	250	n. s.	125 (2)	No	Yes	No	Yes	Yes	Yes	Part	No	Yes	Yes	No	None
Evangelical-Deaconess	140	n. s.	140	No	Yes	No	Yes	Yes	Yes	Part	No	No	No	No	None
Jewish	268	n. s.	200	100	Yes	Yes	Yes	Yes	Yes	Full	No	Yes	Yes	No	\$100
Lutheran	156	n. s.	150	No	No	No	Yes	No	Yes	Part	No	No	No	No	None
Missouri Baptist	459	n. s.	175	No	No	No	Yes	Yes	Yes	Full	No	No	No	No	None
St. Anthony's	200	n. s.	200	No	No	No	Yes	Yes	Yes	Part	Yes	No	No	No	None
St. John's	265	n. s.	200	No	No	No	Yes	Yes	Yes	Part	Yes	Yes	Yes	No	None
St. Luke's	186	n. s.	160	No	No	No	Yes	Yes	Yes	Full	No	Yes	Yes	No	None
St. Mary's	555	n. s.	250	No	Yes	Yes	Yes	Yes	Yes	Full	Yes	Yes	Yes	No	None

(1) Use facilities of City Hospital No. 1.

(2) To be increased soon to 225 kv.

n. s. Not specified.

* Not in every case.

** No direct official university connection. Used by both medical schools.

X-Ray Equipment.—All hospitals replying had deep X-ray therapy equipment with a capacity of from 140,000 to 300,000 volts. Eight of them had X-ray equipment of 200,000 volts or more, the capacity recognized as essential for acceptable cancer therapy.

The Radiological Institute now under construction as a part of the Washington University Medical School hospital group, when completed will have a largely increased capacity for deep X-ray therapy.

Radium.—When it comes to radium, a dif-

ferent picture is presented. But four of the hospitals own radium and the total amount owned by this group amounts to 920 milligrams. There are about 300 milligrams owned by the Radium Estate, a corporation composed of local physicians. The radium is supplied on a rental basis to hospitals and physicians desiring to use it. In addition, there are probably not more than 500 or 600 milligrams of radium owned by different physicians. In many cases this is available for the use of hospitals on whose staffs these physicians hold membership.

City Hospital No. 1, the hospital for white patients, has the largest single quantity of radium in the city, 535 milligrams. This hospital also has the only emanation plant for the collection of radium rays in the form of gold and glass radon seeds. From this supply the needs of City Hospital No. 2, the hospital for colored patients, is supplied, also St. Mary's Hospital and St. Mary's Infirmary. This utilizes practically the full capacity of this emanation plant. When radon is used by other hospitals it is obtained by air mail from either New York or Chicago. We were advised that it was possible to obtain delivery of radon from New York within 24 hours and that the majority of such supplies were obtained from this source.

Laboratory Facilities.—All the hospitals co-operating in this survey are equipped with pathological laboratories for the study of tissues and, with one exception, equipment is provided for making frozen sections. The pathologist in charge in all hospitals is a graduate physician and in eight of them he is employed on a full-time basis.

Outpatient Service.—Eleven of the hospitals maintain outpatient departments. In general these outpatient departments are not organized with the object of furnishing a group diagnostic service for their cancer patients. Outside of Barnard Hospital, but one organized cancer service is maintained in an outpatient department. In the Washington University Clinic, which functions as the outpatient department of the Barnes and allied hospitals, there is a special clinic in the gynecological department devoted to cancer of the cervix. About 40 patients are registered in this clinic and their condition is followed closely by the physicians in charge and by a social worker assigned to this service.

Social Service.—Seven hospitals maintain social service departments with a staff of trained workers. In but two of these, however, were the workers devoting their full time to cancer patients. One social worker was

found at the gynecological cancer clinic of the Washington University Clinic, the other being at Barnard Hospital. The social workers attached to other hospitals were devoting their time and attention to all types of patients, including cancer.

Research.—But two hospitals reported the expenditure of funds for cancer research during the past year. In Barnard Hospital the sum of \$12,000 was spent for this purpose and the Jewish Hospital spent \$100.

Teaching Affiliations.—Nine of the hospitals are affiliated with one or the other of the medical schools as a teaching institution.

SPECIAL CANCER TREATMENT FACILITIES IN ST. LOUIS

Barnard Free Skin and Cancer Hospital.—This hospital enjoys the unique distinction of being the only institution west of the Mississippi River devoted to the diagnosis and treatment of cancer and allied diseases. It has been in operation for more than 25 years and has a capacity of 40 beds. There is a large outpatient department, two operating rooms, a well-equipped laboratory, and deep therapy equipment. The hospital owns 160 milligrams of radium.

Under the terms of the endowment, all the work done in this hospital is free. Owing to the large volume of work, the income from the endowment must be supplemented by contributions from the Community Fund. In 1930 the budget amounted to \$72,549.47. Of this amount the Community Fund and Hospital Saturday and Sunday Association contributed \$16,498.98, the remainder coming from the endowment funds and from donations. The service rendered under this budget comprised the admission of 660 patients to the hospital and the treatment of more than 1200 others in the outpatient department. Twelve thousand dollars of this amount were spent in research work, leaving approximately \$60,500 for general hospital expenses.

The medical staff is composed of physicians who are recognized as leaders in cancer work in St. Louis. The hospital is greatly handicapped by lack of space to carry on the work it is trying to do. Due to lack of funds there is insufficient personnel to carry out properly the necessary activities of the institution. It is necessary to augment the nursing force from among the ambulatory patients, and the operating room service is handicapped by the lack of a sufficient number of trained nurses to fill the necessary positions in the operating unit. The record system used in this hospital is very incomplete, particularly those portions dealing

with the family and previous history of the patient. The history of operative work is fairly complete, but the laboratory reports on tissue examinations, both of biopsies and completely removed tissues, is often lacking.

These criticisms in no way are directed toward a lack of appreciation of their significance by the hospital management and the medical staff who are doing a most praiseworthy work under heavy handicaps, but are due entirely to the large amount of work being done with inadequate facilities and personnel to permit of accepted standards of hospital administration being applied to this institution. Unless ways and means can be found for enlarging the personnel of the institution in order to correct the conditions mentioned above, the question might well be considered of reducing the volume of work done to the point where adequate facilities could be provided for and adequate records maintained of all patients treated. As an example of the heavy overload carried by this institution, the social service department may be cited. One full-time trained worker and a part-time assistant are caring for all the cancer patients in this institution, nearly 600 of whom were admitted last year. When it is considered that from 40 to 60 cases is all that one social worker should undertake to carry at one time, the serious lack of adequate facilities and personnel in this department alone is emphatically realized.

There is a wealth of clinical material both in the hospital and the outpatient department that should be utilized for educational purposes. It was found, however, that the material in this hospital is used only incidentally by the two medical schools for teaching purposes, although staff members are on the faculties of both schools. While the staff meetings are open to interested physicians, few of the local profession outside the staff attend them. Here again it would seem desirable that full advantage be taken of the facilities of this institution by the local profession either by attending regular staff conferences or by the organization of postgraduate work in cancer to be given to small groups of physicians who would register for such courses. In any event, the clinical material available in this hospital, more than twice that of any other institution in this city, should be utilized as a part of the required instruction of students in the two local medical schools.

The work being done by Barnard Hospital calls for an increased number of beds and increased amount of room for the outpatient department. Since the endowment fails to meet the budget necessary to administer the institution, it would seem desirable that some pro-

vision be made for requiring payment by those patients who are able to pay at least a portion of the cost of the treatment received. This fact is further emphasized by the following table showing the residence of patients treated in this hospital during 1930:

	Per Cent
St. Louis	57.5
St. Louis County	4.1
Missouri	16.7
Illinois	18.4
Arkansas	1.8
Elsewhere	1.3

From this table it is readily seen that many nonresidents of St. Louis are taking advantage of the facilities offered by this hospital for the diagnosis and treatment of cancerous conditions. As many of these patients are in the indigent class, for the care of whom their home communities are legally responsible, it seems a heavy burden on the meager budget of the Barnard Hospital to provide free treatment for these patients. Provision should be made for collecting the cost of treatment of nonresident indigent patients from the communities from which they come.

If the hospital confined its intake to legal residents of the City of St. Louis, it could render a more complete and satisfactory service to its patients and at the same time render greater justice to its own facilities and staff personnel. But this limitation may be unwise. The communities tributary to St. Louis from which these outside patients are drawn are fortunate in having the facilities of this institution, but this fact should not give them permission to lay tribute without in some measure providing recompense for service rendered.

To carry on this work efficiently, Barnard Free Skin and Cancer Hospital should have an endowment sufficient to maintain a hospital of at least 100 beds, a portion of which should be set aside for part-pay and full-pay patients, a personnel to staff all departments adequately and an additional fund to be devoted to research purposes. A sufficient quantity of radium to meet the present needs is supplied through that owned by the hospital and available by staff members. An enlargement of the institution and the organization of a program of clinical and pure research would make highly desirable, if not necessary, an additional supply of radium. If an extensive research program is undertaken, there should be at least an additional 850 milligrams of radium with one half or more in solution for the production of radon. Such a hospital would provide a large amount of material for clinical research work and for clinical teaching purposes, both for undergraduate and postgraduate students.

The primary object of such a hospital should

be the increased service that could be rendered to patients; but in the present state of cancer knowledge all possible sources of material for study and research should be utilized to the fullest possible extent. The strategic position occupied by Barnard Hospital, both in its geographical location and its position in a city which has long been and is increasingly becoming the medical center for a large tributary area, makes it both desirable and mandatory that increased facilities in keeping with the minimum requirements laid down above be provided in the immediate future for this institution if it is to maintain and increase its prestige as a specialized cancer hospital.

City Hospital No. 1.—The cancer service at City Hospital No. 1 is under the supervision of the chief of the department of radiology and his assistants. As noted elsewhere, this hospital is supplied with 535 milligrams of radium and an emanation plant for the production of radon. Cancer cases discovered in the outpatient department or in the hospital wards who are in need of radiation treatment are referred to the radiological department. The diagnosis accompanies these patients, but the amount of treatment and its method of application are determined by the radiologist.

An adequate evaluation of the treatment given cancer patients in this hospital is difficult to obtain for the following reasons:

1. The professional services of the hospital are divided into three groups, one for each medical school and an independent service. The period of attendance of each group is too short to permit a careful follow-up on many cancer cases requiring prolonged treatment, consequently the major responsibility for the treatment of these cases lies with the radiologist. It would seem that a more desirable and adequate service could be rendered these patients if the staff member in whose department the particular type of cancer falls had a longer and closer association in the treatment and management of these cases.

2. As all treatments given in this hospital are on a charity basis, it is at times difficult to obtain the cooperation of the patient and those responsible for his admission in an adequate treatment and follow-up program. It is reported that a patient will often give a false address and their addresses frequently change after leaving the hospital as many of them are of the floater type, thus making a satisfactory follow-up service impossible.

3. While there is a social service department connected with the city hospitals a minority of the personnel has had training in social work. Furthermore, the calls upon this department are so numerous that it is impossible to organ-

ize a satisfactory follow-up service for the cancer patients.

The number of cancer patients treated in the city-controlled hospitals of St. Louis makes desirable the creation of a special cancer service, organized in keeping with the recommendations of the American College of Surgeons, to function continuously and without regard to the changing staff groups. Its members should be drawn from the three staff groups so as to provide representation from them all. From among the distinguished members of the medical profession serving on the staff groups of this hospital, a unit could be organized to give service to the cancer patient in keeping with the best recommendation of authorities on this subject. Sufficient deep therapy equipment, radium and radon are available to meet the needs of all that can be accommodated in this institution. Medically trained social workers should be available for follow-up service and adequate records should be kept of all cancer cases treated.

Barnes Hospital Group.—The Barnes Hospital is the nucleus of the teaching hospitals of the Washington University Medical School. The Washington University Clinics, an independent organization, is affiliated with the Barnes Hospital, serving as its outpatient department.

The radiological department is housed in a new eight story building with deep therapy X-ray machines of 300,000 volts capacity.

Cancer patients admitted to the hospital, either through the clinics or direct, are assigned to the staff member specializing in the region in which the patient's cancer occurs. The majority of these cases are seen by more than one physician and are followed up by the chiefs of the departments and their assistants. While there are no facilities, outside of the gynecological clinic referred to elsewhere, for the diagnosis and treatment of cancer in this hospital organized along the lines recommended by the American College of Surgeons and the American Society for the Control of Cancer, it is appreciated that as high a quality of cancer service doubtless is being rendered as if the recommended organization of cancer treatment facilities were functioning. It is realized that in a hospital whose facilities are utilized primarily for medical teaching it is necessary to present a well-rounded teaching program in all types of disease encountered. However, it would be well to consider the relative importance of cancer in the medical, social and economic fields, and emphasize to physicians and medical students the desirability of group consideration of these cases. The follow-up on cancer cases is one of the most important factors from the

standpoint of teaching and the development of such a service to cover all cases may well be considered by those having in charge the care of cancer patients in this group of hospitals.

St. Mary's Hospitals.—The St. Mary's group of hospitals, consisting of St. Mary's Hospital, St. Mary's Infirmary and St. Mary's Dispensary, are each housed in a separate building. Collectively, they form the principal teaching hospitals for the St. Louis University Medical School.

No organized cancer service is available in any of these institutions, although the points discussed under the Barnes Hospital group apply with equal force to the St. Mary's group. Both are teaching institutions and as such have a unique opportunity to develop a cancer service in keeping with the recommendations of the leading workers in the field.

The social service available to these hospitals is concerned with a generalized program and an adequate follow-up plan for cancer patients has not been developed.

A deep therapy X-ray equipment of 250,000 volts capacity is located at St. Mary's Hospital. One member of the department of pathology of the medical school has been authorized to work in the field of cancer pathology during the coming year.

Visiting Nurses Association.—The Visiting Nurse Association of St. Louis is concerned with cancer cases by reason of the fact that such cases are carried on the list of patients to whom the organization renders service. A majority of these visits are made at the request of some individual or organization with whom the nursing association works.

During 1930 this organization concluded the nursing care of 124 patients suffering from cancer. These patients consisted of 19 males of whom two were colored, and 105 females of whom 24 were colored. Among this group there were 41 deaths. The director, Miss Emilie Robson, furnished the following tabulated statement of the cancer patients under the care of this organization for the period January 5 to 15, 1931:

We were informed that the visiting nurses see mostly postoperative cancer cases referred by the social service departments of the various hospitals. Occasionally physicians refer private cases.

When the nurses discover cancer or become suspicious of cancer among persons with whom they come in contact, an effort is made to find out if the person has been or is at that time under the care of a physician. If he is not known to a reputable physician he is referred to a physician if able to pay, or to the clinic at Barnard Hospital or the Washington University Clinic if unable to pay.

Health Department Cancer Clinics.—Cancer clinics are maintained at two of the health centers operated by the city health department, one on the South Side at 901 Lami Street, the other on the North Side at 4613 Easton Avenue. These clinics are held for one hour weekly, Tuesdays from 10 to 11 at Lami Street and Mondays from 4 to 5 at Easton Avenue. These clinics are diagnostic only, no treatment being given. Cancer or suspicious cancer cases are referred to private physicians, to the dispensaries at Barnard Hospital and City Hospital No. 1, or to some other dispensary where the patient may choose to go. These clinics are now in their third year of operation. A summary of the patient seen in these clinics has been prepared by Mrs. Bertha Yenicek, Supervisor of Municipal Nurses, and appears in the table on opposite page.

By sex these 138 patients were divided into 33 males, white, and 105 females of whom 97 were white and 8 colored. Sixty of these cases were referred to Barnard Hospital, the remainder to other hospitals for treatment. On further diagnosis it was discovered that 31 of the 138 patients had cancer, the other 107 were free from the disease.

This is the only activity in connection with cancer carried on by the department of health. It would seem possible to maintain interest in cancer through the medium of the monthly departmental bulletin but in none of the issues of this bulletin for 1930 was the subject of

CANCER STUDY—VISITING NURSES ASSOCIATION OF ST. LOUIS—JANUARY 5-15, 1931

Age	Sex	Color	Marital Status	Diagnosis or Location of Lesion	Operation	Visits to date	Full Pay	Part Pay	Free
61	F	W	M	Cancer of right breast	No	8	..	2	6
57	F	C	M	Probable cancer of lung	Yes	3	..	..	3
52	F	C	M	Cancer of uterus	No	8	2	..	6
62	F	W	M	Cancer of cervix	No	18	8	..	10
49	F	W	M	Cancer of cervix	No	5	..	..	5
49	F	W	M	Fibroid tumor	No	22	10	..	12
41	F	W	S	Cancer of left breast	Yes	2	2	..	..
64	F	W	M	Sarcoma of spine	Yes	13	..	..	13
65	F	W	M	Cancer of bladder	Yes	6	6	..	..
60	F	W	M	Cancer of breast and spine	Yes	10	..	..	10
46	F	W	M	Cancer of gallbladder	Yes	14	..	..	14
36	F	C	M	Cancer of right breast	Yes	4	..	..	4
39	F	W	M	Cancer of cervix.. . . .	Yes	2	2	..	..

PATIENTS IN CANCER CLINICS OF HEALTH DEPARTMENT, ST. LOUIS—1929-1930

Age	Buccal	Stomach, Liver	Peritoneum, Intestines, Rectum	Female Genitals	Breast	Skin	Not Otherwise Classified	Total
Under 5	1	..	..	..	1	15	1	18
5-9	4	..	..	..	1	6	..	11
10-14	2	..	..	..	1	4	..	7
15-19	..	..	..	..	1	..	..	1
20-24	1	..	..	1	1	1	..	4
25-29	..	..	..	2	5	1	..	8
30-34	..	..	..	1	5	..	1	7
35-39	1	1	..	3	4	1	2	12
40-44	..	2	..	3	3	8	2	18
45-49	..	1	1	6	3	2	2	15
50-54	2	1	1	1	..	5	2	12
55-59	1	..	1	..	1	4	1	8
60-up	3	2	..	..	..	10	2	17
TOTAL	15	7	3	17	26	57	13	138

cancer discussed. In view of the fact that cancer is one of the leading causes of death in St. Louis it would seem desirable that at least an occasional reference to the subject be made in the columns of the health department publications. By this means facilities of the two cancer diagnostic clinics maintained by the department could be kept before the public.

Literature on cancer available from the American Society for the Control of Cancer might well be placed in these clinics for distribution to those in attendance. As other clinics are also held in these same buildings, it would be possible to see that practically every visitor to the clinic was supplied with literature appropriate to this subject.

The facilities of the vital statistics section of the health department should be strengthened so that detailed analyses could be made of the cancer deaths reported to it and the information thus obtained applied most profitably toward the control of the disease. The mortality records of a municipality the size of St. Louis are sufficient in number to warrant the installation of equipment and personnel for making complete analyses of all phases of the vital statistics problem.

CANCER PREVENTION AND CONTROL

General Considerations.—In the foregoing pages details of cancer facilities and service in St. Louis have been set forth. Before entering upon the discussion of a program for the prevention and control of cancer, it may be well to give brief consideration to some of the general problems in connection with this disease.

Cancer is the most lethal of all diseases. It never terminates in recovery as do acute and contagious diseases. Unless treated early and adequately the chances of a fatal termination are almost 100 per cent. Authentic cases of spontaneous cessation of growth are so few as to be in the realm of medical curiosities and, according to Dr. James Ewing, of New York, the number of authentic cures of cancer by

means other than surgery, X-ray, or radium or a combination of these, is equally rare.

Deaths from cancer are increasing annually. Statisticians may debate whether this increase is only relative or whether there is an actual increase in the rate of incidence of the disease, but this question is not of so much importance to those interested in the prevention and control of the disease as is the fact that more people are dying of cancer each year.

The increasing percentage of the population living in the cancer age groups, as noted previously in this report, may have an influence on the increase of cancer. Statistical investigations show that the population of this country is becoming much older. Dr. Louis I. Dublin, statistician of the Metropolitan Life Insurance Company, New York, has shown* this to be a fact. During the period 1850 to 1920 the percentage of population fifty years of age and over has increased from 8.9 per cent to 15.4 per cent. By 1950 Dr. Dublin estimates that this portion of the population will have increased to 23.6 per cent. The results of his investigations are summarized in the following table:

Age Group	Calendar Year			Ultimate Stationary Population
	1850	1920	1950	
Under 20 years	52.5	40.7	32.7	29.0
20 to 50 years	38.6	43.9	43.7	40.0
Over 50 years	8.9	15.4	23.6	31.0
TOTAL	100.0	100.0	100.0	100.0

Cancer is no respecter of social or economic groups. While it falls with more economically disastrous results on those in the small income class, as does all other incapacitating illness, it is found with equal frequency among the well-to-do. In this country the estimated annual loss from this disease due to death and incapacity is \$800,000,000.

There is no known specific etiology, although it is now accepted by all scientific workers in the field that chronic or protracted irritation of tissues is one of the principal causative fac-

* *New York Times*, January 4, 1931.

tors. There is no accepted proof that heredity plays any important part in causing this disease nor has environment any influence except in a few instances where occupation has shown a close relationship to cancer. Cancer of the bladder among aniline workers, chimney sweep's cancer, and tar cancer among petroleum workers have all shown a rather close relationship to the materials worked with.

Studies on the incidence of cancer in Massachusetts and elsewhere have shown about three known living cancer cases for every death from this disease. Such surveys have also shown that there are approximately two living cancer cases for each licensed physician.

The only recognized treatment methods are surgery, X-ray and radium, either singly or in combination. The treatment of cancer along the lines recognized as most adequate requires special facilities and equipment. For this reason it is advisable to look for treatment to a few special hospitals able to provide the necessary facilities rather than to attempt cancer service in all hospitals regardless of the facilities, or rather the lack of facilities available. These facilities are beyond the means of the average hospital and private practitioner and can be provided only by generous endowments from either private individuals or governmental agencies.

In addition to the provisions for the actual treatment of the disease by one or more of the means mentioned, a well-rounded cancer service program includes complete records of the service rendered and a follow-up system whereby the history of the patient is available over a period of years following treatment. The patients should be followed, if possible, during the remainder of their lives, but in any event this follow-up could be maintained for a minimum period of five years.

A large number of human cancer growths are external and easily recognized by those with training and experience in the treatment of the disease. It has been stated that one third of all cancers occurring in men and one half of those seen in women fall in this class. In this group are included cancers of the cervix and of the rectum.

Sufficient authentic evidence is now available to show that when treated during its early stages, that is, while the lesion is still confined to its original site and without evident metastasis, permanent relief is secured in a large percentage of cases. If the disease is first seen and treated late in its course the chances of permanent relief are very greatly reduced. The major emphasis on methods of controlling this disease should be placed on early recognition and early adequate treatment. To accomplish

this end the education of the two groups most concerned, the medical profession and the public, is necessary.

Education of Medical Profession.—The medical profession must be taught to recognize cancer in its early stages and to give adequate treatment after the case is properly diagnosed. The public should not be educated to the point of wanting a type of cancer service that the medical profession cannot supply because of lack of training and experience in the cancer field. Should this situation arise, the public demand for adequate cancer service will be met undoubtedly by some form of legislation to provide this service under state supervision if not state control. Such action would take this question out of the hands of the medical profession, where it properly belongs. Dr. Francis Carter Wood, professor of cancer and director of the Cancer Research Institute of Columbia University, New York, has stated:*

The extensive education of the lay public which has been conducted in the past fifteen years has created a situation not without interest to the medical profession as a whole. The fact is that while it is perfectly possible to have the lay public absorb a certain amount of information concerning the symptoms of cancer, after such absorption has taken place and the desired reaction occurred, the profession is not in a position, speaking generally, to render efficient service to those who apply for it. In other words, the medical profession as a whole is not prepared accurately to diagnose the disease which it is called on to treat, at a stage which permits of effective therapeutic attack, nor are all surgeons or radiologists prepared to offer the proper therapy.

The physician can be trained only by seeing patients. Cancer patients form only about 3 or 4 per cent of the admissions to a general hospital. Therefore at any one time in such a hospital there are only a few patients with tumors for teaching purposes. A better place is the radiotherapeutic department, but this contains a large number of those who have been operated on and therefore the instructive diagnosis of the early stages cannot be offered. The solution of the problem will be found only when either the community or the medical profession realizes the absolute necessity of concentrating a large number of cancer cases in institutions in order that research and education can go hand in hand with the best therapy. The physician must train himself in the reading of roentgenograms, in the use of the instruments for the inspection of the accessible internal regions, such as the eye, the throat, and the larynx, and especially in the use of the sigmoidoscope and even the cystoscope.

It is useless to educate the public unless the profession can meet the demands so stimulated, and the profession cannot do so unless the facilities both for the undergraduate and for postgraduate instruction are developed far beyond their present status.

Education of the Public.—The public must be taught the hopefulness of early treatment of cancer so that it will seek medical advice

* Wood, Francis Carter: *The Diagnosis of Cancer*, J. A. M. A. 95:1141 (Oct. 18) 1930.

and secure treatment during the early stages. Both the profession and the public must be educated to a recognition of the early signs and symptoms of the disease and to an appreciation and a belief in the possibility of effecting a cure when the disease is seen and treated in its early stages. Too long a period still remains between the time the patient first notices something wrong at the site of the cancerous growth and when a physician is first consulted. A survey made in Massachusetts in 1925 showed that the average cancer patient consulted his physician eight months after knowledge of the first symptoms of the disease and that cancer patients, who had surgical treatment and ultimately died, waited more than ten months after the first symptoms before having an operation.

In spite of the large amount of educational work in cancer that has been carried on in St. Louis, the records of admissions to Barnard Hospital during 1930 show that patients with cancer of the lip waited approximately one year before applying for treatment. Breast cancer patients waited approximately ten months, those with cancer of the cervix nearly six months, while those with cancer of the skin, the most easily recognized of all, waited from twenty to twenty-four months before seeking medical attention. No further evidence is necessary to emphasize the need for additional constructive educational work regarding the necessity for early diagnosis and treatment of this disease.

Cancer a Public Health Problem.—Cancer is beginning to be considered a public health problem and Kansas and Louisiana now have laws making it a reportable disease. With cancer pushing hard for first place as a cause of death throughout the country, it would seem desirable that public health officials take notice of its occurrence and provide means for its study and, as far as possible, its prevention and control.

In discussing this phase of the cancer problem before the Twenty-Seventh Annual Conference of State and Territorial Officers with the United States Public Health Service in 1929, Dr. James Ewing, professor of pathology of Cornell Medical College, New York, said:

The important thing to know today is that the exciting factors of some of the major forms of cancer are well known, are very simple, and are often controllable. The old French clinicians thought cancer of the mouth, which kills 3,500 yearly in the United States, was caused by tobacco, bad teeth, and syphilis, and that if these three exciting factors were removed cancer of the mouth would disappear. Instead of waiting for sensational discoveries in biology we ought to be acquainting ourselves with those exciting factors in the major forms of human cancer which are accessible, controllable, and which,

if dealt with intelligently, would result in a reduction in the incidence of cancer. On the whole, there is a very substantial body of knowledge regarding the various forms of chronic and specific irritation which are known to be necessary to the incidence of cancer. The exciting causes of several of the major forms of cancer are numerous and very commonplace. One conclusion that can be drawn from such information is that cancer is a public health problem of the first importance, because many of the forms of cancer are preventable and if the public were thoroughly informed a definite reduction in the incidence of cancer might follow.

There are two ways in which the public health officials and organizations may help essentially in the program of cancer control; these are (1) by disseminating to the public the knowledge of the causes of cancer as they are known and of the early signs of the different forms of the disease, and (2) in furthering the effort to provide proper facilities for the treatment of cancer.

Cancer Morbidity Statistics.—Cancer morbidity statistics in general are wanting and the only information available on the cancer problem is that given by the mortality statistics. Morbidity figures are needed to check death certificates, to stimulate earlier diagnosis, to raise the standards of treatment and to augment our clinical knowledge of the disease.

ORGANIZED CANCER SERVICE

In cooperation with the American Society for the Control of Cancer the American College of Surgeons, through its Committee on Treatment of Malignant Diseases, has outlined the following types of institutions for the treatment of cancer:

1. Cancer institutes.
2. Cancer research laboratories.
3. Cancer hospitals.
4. Cancer clinics in general hospitals.
 - a. Complete cancer clinics.
 - b. Diagnostic cancer clinics.

The descriptive quotations that follow are taken from the pamphlet of the American College of Surgeons, entitled "Organization of Service for the Diagnosis and Treatment of Cancer."

Cancer Institutes.—A cancer institute is an organization equipped with hospitals and laboratories especially organized and conducted for carrying on research in relation to the nature of cancer and its diagnosis and treatment, as well as for the clinical diagnosis and treatment of actual cancer patients. Institutes of this nature require very considerable endowments or such generous annual appropriation as can be obtained usually only from the state or national government. They are undoubtedly the most effective method of dealing with the cancer problem but their cost is such that their number will inevitably be somewhat restricted.

Cancer Research Laboratories.—Cancer research laboratories are dependent on large endowments and devote themselves to the investigation of cancer by experimental methods with a view to obtaining knowledge in regard to the nature of the disease.

Research of this character is of the greatest importance in contributing to a better control of the disease than is available at the present time, but it is only after a long period of experimentation that the results obtained in the laboratories can be made effective in the actual treatment of the disease in human beings.

These research laboratories may very appropriately be operated in connection with a cancer institute, as it is from the latter that the clinical and pathological material necessary to carry on their work successfully will be drawn.

Cancer Hospitals.—Cancer hospitals are devoted exclusively to the diagnosis and treatment of cancer and allied diseases. There are probably not more than twelve such hospitals in the United States, of which Barnard Free Skin and Cancer Hospital is one. Such hospitals should have in addition to the usual clinical facilities plenty of space, equipment, and personnel for laboratory research and also deep therapy X-ray equipment of at least 200,000 volts effective capacity, and a supply of radium sufficient to meet all clinical and research needs. It is desirable that there should be at least 1000 milligrams of radium, half of which should be in solution for the production of radon.

Such organizations again require very considerable financial support either by an endowment or by an annual appropriation. Hospitals of this nature may be supported by the state departments of health, as in Massachusetts; by state universities, as in the Cancer Institute of the University of Minnesota, or partly by endowment and partly by annual subscription, as in the case of those organized under private enterprise.

Cancer Clinics in General Hospitals.—Where funds for the maintenance of cancer institutes, research laboratories, or special cancer hospitals are not available, the demand for improved cancer service has resulted in the organization of special clinics in existing general hospitals and of cancer diagnostic clinics in many places in the country in the past few years. The reason for the organization of these special cancer clinics is primarily the fact that the field of cancer diagnosis and cancer treatment has developed so widely in the past few years that only by the organization of a group of representatives of the different departments of the hospital can the full resources available at the present day for the treatment of cancer be made accessible to the individual patient. Many general hospitals are equipped with the material and apparatus needed for the treatment of cancer, including high voltage X-ray and a sufficient amount of radium, but a separate organization is required to make this equipment available for the cancer patient and to secure the necessary consultation and cooperation from the different members of the hospital staff who are interested and competent in this field.

In addition to the special staff organization and the diagnostic and therapeutic facilities mentioned above, the operation of such a clinic requires an adequate record system,

clerical assistants and social service workers. Adequate records of cancer cases should be kept in a uniform manner so that comparative studies of the records can be made in later years. Clerical assistants are necessary to maintain such records and social workers are needed to follow the cases over a protracted period.

Social service work with cancer patients is of primary importance in an acceptable and complete cancer service. It is most important that all cancer patients be carefully followed over long periods subsequent to their treatment either by private physicians or by hospitals. At the present time there is too little known about the health of cancer patients after treatment, and as a knowledge of their subsequent condition is the only practical criterion of the effectiveness of such treatment as has been given, it is most essential that facilities be provided for obtaining regular periodic information regarding such cases.

This work can best be done by a well-trained and experienced medical social worker. Without infringing in the least upon the rights and prerogatives of the physician who has attended the case, information can be obtained regarding the patient's condition.

Another factor that should be given consideration in this connection is that physicians are reported to be experiencing greater difficulty in keeping their list of patients intact. Many patients, particularly those with chronic and slowly incapacitating diseases, are reported to be consulting an increasing number of medical men regarding treatment. Because of this, it becomes increasingly necessary to have accurate and complete information regarding the health of such persons, particularly those afflicted with cancer.

The organization of a follow-up service through medically trained social workers will not only relieve the physician of a responsibility which at times is most difficult for him to discharge without seeming to be too solicitous about his patients, but it will also provide him with information essential to the improvement of his practice and will assist in the gathering of data most necessary to a further and better understanding of present methods of diagnosis and treatment of cancer patients. Social service follow-up of cancer patients is not a new undertaking in the medical field. In those institutions where it has been utilized for years reliable statistics are now available on patients treated 15 to 20 years ago and such statistics form some of the most valuable background we now have on this subject.

It would be well for all hospitals accepting cancer patients for diagnosis and treatment to have a social service department adequately

staffed to which such patients would be referred on discharge for regular follow-up investigation. It is only by the accumulation of a largely increased volume of information and statistical data on the condition of cancer patients following treatment, that improvement in diagnostic and therapeutic technic can be brought about.

Cancer Diagnostic Clinics.—Hospitals, unable to meet fully the requirements for a cancer service but which have members of their staff interested in cancer and a laboratory with equipment and personnel able to interpret the histological findings, may offer a cancer diagnostic service that would be of value to the community.

Cancer diagnostic clinics may be organized in smaller communities where modern X-ray equipment and an adequate supply of radium is lacking. The object in establishing such a clinic is to provide better diagnoses upon cancer patients, to furnish a group judgment concerning the proper means of therapy to be employed and to educate the medical public concerning this important group of diseases. Medical men in the community should be encouraged to bring patients to such a clinic, accompanied by a complete record of the history and physical examination. When a diagnosis shall have been reached and a line of treatment suggested, the surgeon or physician will be free to continue the care of his own patient as he may see fit.

The most important activity of such a clinic is the conference held at least once a week. The conference permits a free exchange of ideas and eliminates the special bias of any one individual in dealing with a patient. The diagnosis of cancer may be extremely difficult and the best judgments rendered are by groups of men interested in this subject. At such a conference interesting pathological material may be presented. The members of the clinic and the physicians in the community should be encouraged to present in the conference patients who have been previously seen and have been subjected to various forms of treatment. The conference, therefore, becomes an important educational activity of the clinic.

CANCER PREVENTION AND CONTROL IN ST. LOUIS

The following facts bearing on the cancer problem in St. Louis have been developed in this survey.

While the general death rate of the city is declining, the cancer death rate is rising steadily. Whereas the cancer deaths in 1900 represented but 3.1 per cent of the total mortality, in 1930 they represented 10.3 per cent of all deaths.

As far as it is possible to determine, approximately 2400 cancer patients were treated in St. Louis hospitals in 1930, and among this number there were 522 deaths of which 134 came to autopsy.

All the general hospitals in St. Louis treat cancer patients.

Judged by the returns from the inquiry made of physicians regarding cancer patients, many physicians do not see such patients in the course of their practice. This same inquiry revealed that a comparatively few physicians are seeing a large number of the cancer patients coming to treatment in St. Louis. This is a hopeful indication, as it is now recognized that adequate cancer service can be given only by physicians who have had and are having the most experience in the treatment of this disease.

The Barnard Free Skin and Cancer Hospital is the only hospital in St. Louis devoted exclusively to the treatment of cancer and allied diseases. In none of the other hospitals, excepting one branch of the Washington University Clinics, is there any organized cancer service. The nearest approach to such a service is in City Hospital No. 1, but here the work is confined to the department of radiology. Neither medical school maintains an organized cancer service for the instruction of undergraduates or postgraduates in medicine.

The Barnard Free Skin and Cancer Hospital is carrying on a large amount of work for the facilities and budget at its disposal. More than 40 per cent of its patients come from outside St. Louis, as do many similar patients of other hospitals. The following hospitals reported the residence of their patients as follows:

	Number Cancer Cases	St. Louis Per Cent	Missouri Per Cent	Elsewhere Per Cent
Barnard	593	57.5	20.7	21.5
Barnes	342	48.5	21.6	29.9
Jewish	137	65.7	15.3	19.
Missouri Baptist	167	55.6	...	44.4*
St. Luke's	128	60.	18.7	21.3

* Missouri included.

This distribution clearly indicates that the cancer treatment facilities of St. Louis are serving a large territory outside the city. Many of these cancer patients come from Arkansas, Oklahoma, Kansas, South Dakota, as well as from southern Illinois and Missouri.

Only \$12,100 was spent on cancer research in St. Louis in 1930, practically all of which was expended by Barnard Hospital. The Jewish Hospital reported that \$100 was spent in cancer research during the past year. St. Louis University Medical School announced that one member of the department of pathology would work in the cancer field during the coming year.

Cancer is being given very little attention by the St. Louis department of health. Its only activity in this line consists in offering two diagnostic clinics weekly. These clinics are reaching comparatively few people, an average

of only five or six a month. In view of the rapidly mounting mortality from this disease in St. Louis, it would seem desirable for the department of health to take official notice of this condition and make provision both in its budget and personnel for dealing with this question. The departments of public health of Massachusetts and of Detroit, Michigan, now have cancer control divisions. The bureau of hospitals of New York City has a division of cancer clinics and research, and the legislature of New York, in the session just closed, created a division of cancer control in the health department of that state. St. Louis might well follow these precedents in the organization of its official cancer control program. A very active tuberculosis control program is carried out by the department, although the deaths from tuberculosis are approximately 50 per cent of those from cancer. This statement should not be interpreted as indicating that less attention should be given to tuberculosis, but rather the need for giving some attention to a disease that now ranks as one of the major causes of death in that city.

During 1930 the bulletin of the St. Louis Health Division carried no information about cancer, although during that year there were nearly 1200 deaths from the disease.

RECOMMENDATIONS

The following recommendations are made for improving the cancer service available for those who may apply for such treatment in the hospitals of St. Louis:

1. Barnard Free Skin and Cancer Hospital should be enlarged to 100-bed capacity with provision for part-pay and full-pay patients. The facilities of its outpatient department should be correspondingly enlarged and so organized that the fullest possible use could be made of the clinical material for both undergraduate and postgraduate teaching. For these purposes a close working relationship might be brought about with the medical schools of St. Louis University and Washington University.

The facilities and clinical material in this enlarged hospital should be used for postgraduate instruction and clinical research by properly qualified physicians. A distinct service can be rendered to the cause of cancer diagnosis and treatment if a group of resident fellowships were available in this hospital similar to those found in Memorial Hospital, New York. The holders of these fellowships should be selected for their training, ability and interest in cancer work and with the understanding that, so far as possible, their professional activities at the conclusion of their training

would be in the field of cancer diagnosis and therapy.

To fulfill its purpose as a special cancer hospital or as a cancer institute, Barnard Hospital should have 800 to 1000 milligrams of radium, with approximately one half in solution for the production of radon.

Nonresident patients at this hospital may well pay at least a portion of the cost of their treatment. Indigent patients coming from other communities should have the cost of their treatment collected from the community from which they come. A possible solution of this matter might be had if the State of Missouri would make an annual appropriation in support of the work of this hospital. This appropriation could be used in part for the treatment of indigent patients and in part for the support of research work. Precedents for such action by the state government are found in Massachusetts, Minnesota and Georgia, in which states a program of cancer treatment and research is carried out under legislative appropriation.

The suggested program for Barnard Hospital contemplates an adequate record system together with sufficient clerical and social service personnel to carry on a complete follow-up service with all cancer patients coming in contact with the institution.

If necessary to do so, the charter of this hospital should be changed to permit the proposed expansion of its work.

2. The cancer service now available at City Hospital No. 1 should be strengthened by the organization of a special cancer staff from among the three clinic groups now serving this institution. The director of the clinic may well be a surgeon interested primarily in cancer work. Other members should include an internist, pathologist and radiologist. Additional members of this service should be drawn from the specialties in which the site of the cancer may lie, such as gynecology, dermatology, urology, otolaryngology, etc.

All cancer cases admitted to this hospital or seen in the outpatient department should be referred to this special cancer group for diagnosis and treatment. Adequate records should be kept of these cases and a follow-up by medically trained social workers should be maintained.

The suggested organization could be put into effect with very little added expense to that now entailed in the administration of this hospital. The largest single item would probably be for trained social workers. Clerical assistants could doubtless be supplied from among the present clerical personnel.

Such a department should cooperate closely

with the department of health in caring for those cancer patients found in the various health clinics of the health department.

The clinical material in both the outpatient department and the hospital should be utilized fully for teaching purposes by the two medical schools.

3. Pending the completion of the Firmin Desloge Hospital which will form the principal teaching unit of the St. Louis University Medical School, it would seem desirable to utilize for undergraduate instruction the clinical material available in the city hospitals under the organization plan recommended above. These facilities would be in addition to those now available in the St. Mary's Hospital group but not yet organized into a special cancer service. When the facilities of the Firmin Desloge Hospital are available a year hence, it would be desirable to organize the staff of that hospital for the diagnosis and treatment of cancer along the lines recommended for City Hospital No. 1, with the exception that the expense of an emanation plant would probably not be justified unless the university decided to embark upon an extensive cancer research program. There should, however, be available at least 200 milligrams of radium for treatment purposes. The facilities of Barnard Hospital also should be utilized by this school for teaching purposes.

4. While the present organization of the clinical teaching facilities of the Washington University Medical School embraces no special facilities for the group consideration of cancer patients, except those provided in a special gynecological cancer clinic described in previous pages, this does not mean that the care of such patients or undergraduate instruction in this disease is neglected. With the completion of the new Institute of Radiology, unsurpassed facilities will be available for X-ray therapy, both for clinical and research purposes. Unless this institution embarks upon an extensive cancer research program, it is doubtful if a radium emanation plant would be a necessary addition to its equipment. Approximately enough radium is now available to the hospitals of this group to meet their present needs.

It is believed, however, that the student body of this medical school would profit from the group study of cancer patients coming to the Washington University clinics. This suggestion is in keeping with the recommendations of such bodies as the American Society for the Control of Cancer and the American College of Surgeons that the clinical material available should be presented through an organized cancer service.

5. It is believed that the needs of the cancer situation in St. Louis will be met by the development of organized cancer services in the institutions mentioned. It is realized, of course, that cancer cases will continue to be seen and treated in other hospitals and by physicians in their offices. It would be well when cancer cases are encountered in other hospitals and when seen by private physicians that they be referred for treatment to one of the hospitals with special cancer facilities. In any event, an adequate record of these patients should be kept and they should be referred to the social service department for follow-up. In the present status of cancer therapy, it is doubtful if an institution should undertake to treat cancer unless there are available adequate facilities for diagnosis, therapy, record keeping, and social service follow-up work.

6. In cooperation with all hospitals doing cancer work in St. Louis, a comparable and adequate system of record keeping and follow-up service should be developed. The record forms of the American College of Surgeons and the follow-up system indicated thereon are recommended to the favorable consideration of interested hospitals.

7. Each hospital treating cancer patients should have a trained medical social worker on its staff whose primary function would be the follow-up of cancer patients. She should cooperate fully with the clinical and record departments, also with the social service departments of other hospitals and the department of health.

8. There should be developed in the St. Louis Health Department a division of cancer control of equal dignity and responsibility with other divisions of the department. There should be a full-time director of this division with adequate budget and personnel to enable him to carry on studies in the prevention and control of cancer, the analyses of hospital records, of autopsies, of death certificates and of other information pertinent to this question.

The vital statistics section of the department of health should be strengthened by the addition of a trained statistician whose studies of the statistical records on file would indicate lines of investigation on cancer and other health problems.

The work of the cancer clinics at the municipal health centers should be increased through a wider community knowledge of their existence and the facilities they have to offer. This, together with other types of educational work, could be carried on in part through the bulletin of the department of health and in part through the educational and

publicity material furnished by the American Society for the Control of Cancer through the St. Louis Cancer Control Committee.

9. It is believed that these recommendations for an improved service in the prevention and control of cancer in St. Louis can be most effectively brought into play through the co-operation of the St. Louis Medical Society, the St. Louis Department of Health, and the St. Louis Committee of the American Society for the Control of Cancer in a tripartite organization for cancer control. This cooperative group could weld into a strong working organization all of the cancer control facilities in the community to the end that all cancer patients would receive acceptable and adequate treatment in the earliest possible stage of the disease, which stage offers the greatest hope of permanent relief. The organized facilities would also offer an unexcelled opportunity for undergraduate and postgraduate education in the field of cancer diagnosis and therapy, a field that needs intensive cultivation if the best service is to be rendered to sufferers from this disease. The contribution which each member of this tripartite organization would make and the problems on which they would cooperate with each other in the suggested program are herewith indicated.

PROGRAM OF TRIPARTITE ORGANIZATION FOR
CANCER PREVENTION AND CONTROL IN
ST. LOUIS

A. St. Louis Medical Society

1. The St. Louis Medical Society should concern itself with the education of the medical profession of St. Louis in the most approved methods of diagnosis and treatment of cancer and allied diseases.

2. It should cooperate with hospitals and clinics to see that adequate facilities are provided and acceptable treatment rendered to cancer patients coming to these institutions.

3. It should stimulate the two medical schools in St. Louis to an appreciation of the value of proper organization of the teaching staff and clinical material to offer the best possible service to the patients and the most favorable opportunity to their students for the study of this disease.

4. It should stimulate its members to refer promptly cases which they do not diagnose or care to treat to institutions and specialists interested in such cases.

5. It should endeavor to secure better histories and records of the treatment of cancer cases and to obtain more accurate statements on death certificates as to the cause of death.

6. It should cooperate with the department

of health in the preparation of educational material to be published by the department in its monthly bulletin and in the daily press.

7. It should encourage its members to read papers on cancer subjects at local and state medical society meetings.

8. It should supply its members with reliable statistics tending to show the value of early diagnosis and early adequate treatment.

B. Department of Health

1. The Department of Health of St. Louis should make surveys to determine the character and extent of the cancer problem within its territory as to the actual number of cases and deaths.

2. It should compile statistics from the tabulation of cancer deaths by age, sex, organ, type of lesion and of the time elapsing between the patient's first knowledge of the disease and his seeking medical attention.

3. It should make surveys of the clinic, hospital, and nursing services available for cancer patients.

4. It should make studies of the economic and social problems involved with the cancer patients in the community.

5. It should see that the proper facilities are provided for the pathological examination of tissues. These examinations should be done in the hospitals offering satisfactory facilities for this work or in the laboratories of the department of health.

6. It should periodically estimate the amount and quality of cancer service given in the community on the lines laid down in the appraisal form of the American Public Health Association.

7. In cooperation with the St. Louis Medical Society, it should provide for publication of interesting educational articles on the question of cancer control. These articles would appear in the department bulletin, in the daily press, and in suitable leaflet form for distribution to hospitals, clinics, and health centers throughout the city.

8. It should cooperate with the St. Louis Committee on Cancer Control in education of the public regarding early signs and symptoms of cancer and the value of early, adequate treatment.

C. St. Louis Cancer Control Committee

1. This committee should cooperate with the St. Louis Medical Society and the St. Louis Health Department in the activities assigned these two organizations under this tripartite arrangement.

2. It should assist in educating the public in the early signs and symptoms of cancer and

the value of early diagnosis and early adequate treatment.

3. It should assist the public in ways and means of seeking skillful attention in the treatment of this disease.

4. It should teach the public the value of periodic examinations as a means of detecting cancer in its early and most hopeful stage.

5. It should educate the responsible municipal officials of St. Louis to the value of adequate facilities for the early diagnosis and treatment of cancer and should urge upon them the provision of funds when and where needed to supplement existing facilities for use in controlling this disease.

6. It should take a prominent part in the raising of funds to carry out the program developed by this tripartite organization for cancer control.

7. It should cooperate with all voluntary health and welfare agencies in all their activities related to cancer.

8. It should keep fully advised of the policies and programs of the American Society for the Control of Cancer, of which it is the local representative, and should avail itself of all the facilities the parent society has to offer. It should furnish the St. Louis Medical Society and the health department with educational material and should keep the parent society and its field representative responsible for the work in that territory fully advised of its activities.

CANCER SURVEY OF ST. LOUIS
COUNTY, MISSOURI

Statistics

Population.—The population of St. Louis County is increasing at a rapid rate. The Federal Census gives the following as the population since 1890:

Year	Population
1890	36,307
1900	50,040
1910	82,417
1920	100,737
1930	211,593

During the last decade the population of this county has increased at a very rapid rate, approximately 10 per cent a year. This increase comes largely from the City of St. Louis and is distributed through a number of separate municipalities. The density of the population varies from closely built city areas to open farming country. There are no particular types of inhabitants differing from those of any other similar community.

Cancer Deaths.—Because of the very close association of the residents of St. Louis County with the City of St. Louis, and particularly because it has been necessary for those needing hospital care to go to the City of St. Louis for

such service the care and treatment of cancer patients has been more closely identified with the medical and hospital facilities of the city of St. Louis than with those of St. Louis County.

According to the statistics from the state department of health for 1929, 184 deaths from cancer were reported from St. Louis County, or a rate of 91.75 per 100,000. This is less than the rate for Missouri as a whole, which was 108.93, and also for the City of St. Louis, which was 132 per 100,000.

The cancer deaths in St. Louis County for 1929 were 9.65 per cent of all deaths reported, or approximately one in every ten. For the state as a whole, 8.88 per cent of all deaths were due to cancer, and for the City of St. Louis approximately 10 per cent of the deaths for 1929 were due to cancer.

It is thus seen that the cancer problem in St. Louis County is approximately the same as in other localities. The percentage of deaths due to cancer lies between that for the state as a whole with its large rural population and St. Louis as representing a closely built-up area with the usual congested living conditions always found in large cities. This is not to be taken as indicating that congested living conditions are conducive to an increased cancer mortality, but as a corroborative statement of the well-established fact that the cancer death rate is higher in urban than in rural communities. A number of causes aside from that of congested living conditions may account for this situation.

Post Card Census.—Forty-three physicians returned the post card questionnaire sent out by the secretary of the County Medical Society. Of this number 17 reported having seen no cancer cases during 1930 nor had they on March 1, 1931, any cases under treatment.

The 26 physicians who reported cancer cases had seen 72 new cases during 1930. These cases were distributed as follows:

5	had seen none	
3	saw 1 each.....	3
6	saw 2 each.....	12
6	saw 3 each.....	18
1	saw 4	4
2	saw 5 each.....	10
2	saw 8 each.....	16
1	saw 9	9
TOTAL		72

This same group of physicians reported on the number of cases under observation or treatment on March 1, 1931, as follows:

8	had none	
8	had 1 each.....	8
3	had 2 each.....	6
2	had 3 each.....	6
2	had 4 each.....	8
1	had 5	5
1	had 7	7
1	had 9	9
TOTAL		49

As many of the members of the St. Louis County Medical Society are on the staffs of hospitals in the City of St. Louis, it is possible that some of the cancer patients reported by these physicians were also reported in the cancer survey recently made for the St. Louis Medical Society.

Of the physicians replying to the post card questionnaire, 21 stated that they either did not know the present health status of their old cancer patients or that all had died during the five years following their treatment. An additional 17 physicians stated that they knew the health status of all their old cases.

The best estimates available indicate that for each cancer death in the community there are three living cases. On this basis the 184 cancer deaths reported for St. Louis County in 1929 would represent more than 550 living cases in the county at any given time.

CANCER PREVENTION AND CONTROL IN ST. LOUIS COUNTY

The following general facts should be kept in mind in the development of a program of cancer control in St. Louis County.

While the general death rate of the state and county is declining the cancer death rate is increasing. This increase in general is more rapid in urban than in rural areas, and as St. Louis County is becoming an urban area, it is to be expected that its cancer death rate will increase faster than that of the state as a whole.

Cancer treatment facilities in the county were practically nonexistent when this survey was made. Such facilities in St. Louis hospitals were readily available and were used for cancer patients.

Due to the lack of organized cancer service or of facilities for the treatment of the disease, little educational work has been done among the laity and the profession. The health department has given no special attention to the subject of cancer although it has a corps of trained public health nurses who are in daily contact with the residents of various communities.

As complete cancer treatment facilities are available in various hospitals in St. Louis, it is not believed desirable to establish a complete cancer service in the county hospital. It might be well, however, to develop an organized diagnostic service. This service would provide a plan whereby the diagnosis would be established and the method of treatment decided on. If surgery alone is indicated the necessary procedures could be carried out on the premises; if irradiation were decided on it would be well

to refer the case to the St. Louis hospital best equipped to do this work.

It would seem desirable that the county health department should undertake to educate the public as to early signs and symptoms of cancer and means of obtaining adequate treatment. It might well give attention to the morbidity and mortality statistics of the disease and analyze such information for the benefit of the medical profession and its own health work.

Such cancer diagnostic and treatment facilities as are provided in the new county hospital should be organized in keeping with the recommendations of the American College of Surgeons.

In addition to the professional facilities, there should be provided an adequate record system for recording not only the usual data found on all well-kept hospital records, but in addition special information regarding cancer. These records are of first importance as they will provide material for studying various cancer problems and in time will prove a valuable contribution to the knowledge of cancer.

To be of the most value, such records should be comparable to those kept in other hospitals so an increasing volume of information on cancer would gradually develop. The American College of Surgeons has formulated a cancer record form which it will gladly place at the disposal of any hospital interested in this work. This blank offers a uniform method of record keeping and may well form the basis of any type of record form adopted in an organized cancer service. There should be provided also in this diagnostic and treatment center facilities for the follow-up of all cases. These facilities should include medically trained social workers and a sufficient clerical force to keep in touch with all cases coming for diagnosis or treatment. Those cases referred by private physicians would, of course, be followed only through these physicians or with their full knowledge and consent. Cases referred by other agencies would be followed through the regular channels. This follow-up service is of special significance and importance in cancer work for through it is offered the most adequate criterion of the effectiveness of cancer treatment available today. There is still lacking an adequate body of authentic statistics on cancer treatment and it is only by the organized follow-up on an increasing number of cancer patients that sufficient evidence will be produced to bring about an improved service in this field. There are also great possibilities that the intelligent use of such facts as are brought out by an adequate follow-up service

will contribute to the solution of the problems of prevention and control of this disease.

For promoting the interest of its members in cancer diagnosis and treatment, the County Medical Society should have one or more programs annually devoted to the subject of cancer.

The Missouri Committee of the American Society for the Control of Cancer can assist in the educational work by the formation of a local committee to be composed of professional and lay members. This committee could assist in the educational work by supplying literature on various cancer topics, by the organization of meetings for the public, and by providing information to inquirers regarding hospital and professional facilities for the diagnosis and treatment of the disease.

The above plan, if carried into complete operation, would provide for St. Louis County an adequate diagnostic and treatment service for the cancer patients within the county. It would also offer an opportunity for educating the profession as to acceptable methods of diagnosis and treatment and would provide information on which a public educational program could be based.

Recommendations

As a means of providing an improved service for the cancer patients of St. Louis County the following recommendations are made:

1. Organize a cancer service in the county hospital that would function primarily as a diagnostic clinic for both the outpatient and inpatient departments, the organization to be such as to meet the approved minimum standards of the American College of Surgeons for service of this type.

If deep therapy and radium treatments are not already available, treatments by irradiation might better be secured from existing hospitals in St. Louis than be furnished by the county hospital. Surgery when indicated could be done in the county hospital.

If deep therapy is available, it should be under the direct supervision of some physician who has had adequate training in this form of therapy.

2. The organization of a special cancer service in the county hospital should include an adequate record system and medically trained social workers for follow-up purposes. These workers should cooperate fully with the clinical and record departments of the hospital.

The St. Louis County department of health, through its public health nurses should cooperate with this cancer service by referring patients encountered in their regular work to

the clinic for care. They should also cooperate with the social service department of the hospital in the follow-up work with patients.

3. Adequate and complete mortality records of cancer cases should be kept by the county health department and as far as possible these records should be analyzed at frequent intervals. More accurate causes of death of cancer cases should be urged by the health department. As all death certificates pass through this department it has a good opportunity to check them while the incidents connected with their reporting are still fresh in the minds of the physician making the report. Death certificates could also be checked against autopsies.

4. The weekly cancer conferences should be open to all physicians in St. Louis County in good standing. The St. Louis County Medical Society should stimulate interest in these weekly conferences as a means of educating its members in better methods of cancer diagnosis and treatment. It should also provide frequent papers on cancer in its regular meetings and, at least annually, offer a complete program on cancer.

5. Under the guidance of the State Cancer Control Committee of the American Society for the Control of Cancer there should be formed a local committee for St. Louis County. The membership of this committee should include both professional and lay members, and their chief function should be to arouse and maintain a sane and constructive interest in cancer prevention and control throughout the county. This committee should also serve the county as a clearing house of information on cancer questions. It should cooperate closely with the St. Louis County Medical Society and the health department and with all other health and educational forces in the community for the prevention and control of cancer.

6. It is believed that the needs of the cancer situation in St. Louis County will be met by the development of an organized cancer service along the lines mentioned. It is realized, of course, that cancer cases will continue to be seen and treated in hospitals not equipped for cancer therapy and by physicians in their offices. It would be well when cancer cases are encountered by institutions and physicians not equipped to give adequate service that they be referred for treatment to those hospitals and physicians who are so equipped. In any event, an adequate record of the case should be kept and a follow-up in keeping with the recommendations made should be carried out. In the present status of cancer therapy it is doubtful if an institution should undertake to treat cancer unless there are available adequate facilities

for diagnosis, therapy, record keeping, and social service follow-up work.

7. It is believed that these recommendations for an improved service in the prevention and control of cancer in St. Louis County can be brought into play most effectively through the cooperation of the St. Louis County Medical Society, the St. Louis County Department of Health, and the St. Louis County Committee of the American Society for the Control of Cancer in a tripartite organization for cancer control. This cooperative group could weld into a strong working organization all the cancer control facilities in the county to the end that all cancer patients would receive acceptable and adequate treatment in the earliest possible stage of the disease, which stage offers the greatest hope of permanent relief. The contribution which each member of this tripartite organization would make and the problems on which they would cooperate with each other in the suggested program are herewith indicated.

PROGRAM OF TRIPARITE ORGANIZATION FOR CANCER PREVENTION AND CONTROL IN ST. LOUIS COUNTY

A. ST. LOUIS COUNTY MEDICAL SOCIETY

1. The St. Louis County Medical Society should concern itself with the education of the medical profession of that county in the most approved methods of diagnosis and treatment of cancer and allied diseases.

2. It should cooperate with the county hospital in the development of adequate diagnostic facilities for cancer patients coming to this institution.

3. It should stimulate its members to refer promptly cases which they do not diagnose or care to treat to hospitals and specialists interested in such cases.

4. It should endeavor to secure better histories and records of the treatment of cancer cases and to obtain more accurate statements on death certificates as to the cause of death.

5. It should encourage its members to read papers on cancer subjects at local and state medical society meetings.

6. It should supply its members with reliable statistics tending to show the value of early diagnosis and early adequate treatment.

7. It should cooperate with the health department of St. Louis County and with the St. Louis County Cancer Control Committee in the preparation of educational material for use with lay groups and by the newspapers.

B. ST. LOUIS COUNTY HEALTH DEPARTMENT

1. The St. Louis County Health Department should make surveys to determine the character

and extent of the cancer problem within its jurisdiction as to the actual number of cases and deaths. It should also survey periodically the clinic, hospital and nursing facilities available for cancer patients.

2. It should compile statistics from the tabulation of cancer deaths by age, sex, organ, type of lesion, and of the time elapsing between the patient's first knowledge of the disease and his seeking medical attention.

3. It should make studies of the economic and social problems involved with the cancer patients of the community.

4. It should estimate periodically the amount and quality of cancer service given in the community on the lines laid down in the appraisal form of the American Public Health Association.

5. It should cooperate with the St. Louis County Medical Society in the education of the public as to the value of early diagnosis and early adequate treatment. This cooperation should also be extended to the St. Louis County Cancer Control Committee in its educational efforts.

C. ST. LOUIS COUNTY CANCER CONTROL COMMITTEE

1. The St. Louis County Cancer Control Committee should cooperate with the St. Louis County Medical Society and with the St. Louis County Health Department in the activities assigned these organizations in this tripartite arrangement.

2. It should assist in educating the public in the early signs and symptoms of cancer and the value of early diagnosis and early adequate treatment.

3. It should assist the public in ways and means of seeking skillful attention in the treatment of this disease.

4. It should teach the public the value of periodic examination as a means of detecting cancer in its early and most hopeful stage.

5. It should educate the responsible officials of St. Louis County to the value of adequate facilities for the early diagnosis and treatment of cancer and should urge upon them the provision of funds when and where needed to supplement existing facilities for controlling this disease.

6. It should take a prominent part in the raising of funds to carry out the program developed by this tripartite organization for cancer control.

7. It should cooperate with all voluntary health and welfare agencies in all their activities relating to cancer.

8. It should keep fully advised of the poli-

cies and programs of the State Cancer Committee of the American Society for the Control of Cancer, of which it is the local representative, and should avail itself of all the facilities the State Committee and the American Society have to offer. It should furnish the other members of this tripartite organization with educational material from the American Society and the State Committee, and through the State Cancer Committee, should keep the field representative of the American Society for the Control of Cancer responsible for the work in that territory fully advised of its activities.

ADVANTAGES OF CECOSTOMY PRELIMINARY TO RESECTIONS OF COLON AND RECTUM

ALLEN O. WHIPPLE, New York (Journal A. M. A.), enumerates thus the advantages of a cecostomy carried out two to four days before a resection of the colon or rectum: It makes possible a proper cleansing of the colon before the major procedure. It permits the part anastomosed to be at rest until the period of fibroplasia is complete. It increases the comfort of the patient by reducing distention and pains of ineffectual peristalsis. It obviates the temptation and the necessity in some cases of giving enemas or irrigations in the critical period of repair. In cases of partial or complete obstruction of the colon or rectum it has long been recognized as essential. If it works so well in the patients who are desperately sick, it is even more efficacious in the nonobstructed case. The author believes that the overenthusiastic use of the cecostomy tube as a means of administering fluids or enemas or irrigations before and after major procedures on the colon and rectum should be discouraged. This carries risk of leakage around the cecostomy opening and, after resections, of distending the intestine proximal to the suture line. The tube should be kept in one position. If it comes out, it should be left out. Only the most gentle syringing of the tube to dislodge fecal particles in the several terminal perforations should be used. A number 24-28 French colon tube of good rubber, with from four to six openings in the terminal 8 cm., gives the best results as a safety valve. The Witzel method is the one of choice in introducing the tube into the cecum. The cecostomy is usually done under local anesthesia from two to three days before the major procedure.

ABERRANT THYROID

RICHARD B. CATTELL, Boston (Journal A. M. A.), reviews thirteen cases of lateral aberrant thyroid. All showed a similar structure of papillary cystadenoma. In considering this group of cervical tumors, the author points out the low grade of malignancy as compared with other epithelial tumors involving the cervical glands. These tumors frequently go unrecognized and may be reported as metastatic carcinoma of unknown origin in the cervical glands. It is believed that neck tumors, outside of the thyroid gland showing papillary cystadenoma, are of lateral aberrant thyroid origin and are the result of arrested development. Satisfactory results were obtained by radical removal followed by postoperative irradiation. It is important to recognize them, since a good prognosis can be given.

SOURCES OF RADIATION AND THEIR PHYSICAL CHARACTERISTICS: COLD RED RAY AND COLD ULTRAVIOLET RAY LAMPS

W. W. COBLENTZ, Washington, D. C. (Journal A. M. A.), comments on the great difference in the physiologic action of the ultraviolet rays of wavelengths less than 265 millimicrons in artificial sources (absent in sunlight) as compared with the wavelengths from 310 to 315 millimicrons, which are very intense in sunlight. The ultraviolet rays of wavelengths in the region of 254 millimicrons do not penetrate deeply into the skin, the erythema produced is superficial, and an overexposure of several times the dosage required to produce a minimal perceptible erythema does not produce a blister. In contrast, if the untanned skin is exposed to the more deeply penetrating rays of wavelengths 310 millimicrons and longer, for an interval that is only slightly longer than the dosage time required to produce a minimal perceptible erythema, a painful blister is produced. This phenomenon was noted by Hausser and Vahle, and more recently by the author. During the past summer, the latter made further physiologic tests, measured amounts of ultraviolet radiation from artificial sources and from the sun being used. The observed time of exposure to the clear noonday sun (which was in good agreement with the calculated time of exposure based on measurements with a newly designed intensity "dosage" meter) to produce a minimal perceptible erythema was twenty minutes, whereas an exposure of thirty minutes produced a painful burn. While these facts are known to a few, it will require a long time to inform the public of the importance of properly timing the sunbath in order to avoid severe burns. In the meantime, office workers, store clerks, and the like will suddenly emerge from their daily routine for two weeks' vacation, and, without any preliminary systematic timing of the exposure of the untanned parts of the body, will bask in the summer sun for hours (instead of from fifteen to twenty minutes) and, as a result, will suffer painful burns that could have been avoided if a warning had been given.

ROENTGEN TREATMENT OF AGRANULOCYTOSIS

ALBERT E. TAUSSIG and PAUL C. SCHNOEBEL, St. Louis (Journal A. M. A.), call attention to the fact that cases of agranulocytosis are being observed with increasing frequency, so that it may be said to have ceased to be a rare disease. The symptom complex of agranulocytosis has been circumscribed somewhat arbitrarily. While it is convenient to distinguish it from the bone marrow depression observed in benzene poisoning, in the course of antisyphilitic treatment and in the aleukemic stage of lymphatic leukemia, borderline cases are not infrequent, in which proper classification is difficult. Two of four cases reported by the authors show clearly that the fall in the granulocytic blood count may precede the appearance of a sore throat. A study of the literature reveals numerous similar observations and justifies the conclusion that the agranulocytic blood picture is the cause and not the result of the angina. Agranulocytosis occurs about twice as frequently in women as in men; the mortality in the two sexes is about the same. Of the methods of treatment at present in use, the most promising appears to be the irradiation of the long bones by means of minimal doses of X-rays. Transfusions are also apparently useful.

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EDITORIALS

SAVE THE PSYCHOPATHIC CLINIC

In "The Money Value of a Man" Dr. Louis I. Dublin calculates that a child at 10 is worth \$14,950 to the State. Net future earnings will add this amount to the economic wealth of the community.

The bare maintenance cost of a patient in a state hospital averages \$300 a year. Capital expenditure cost is not less than \$2500 a bed. The cost of courts and other machinery for the control of crime runs into appalling figures. Only in very recent years has there been any organized effort to study the beginnings of mental disorder to determine whether prevention may be possible, to study the early departures from accepted social conduct and to learn methods of value in treatment. But the world is waking up to the vast economic loss represented in those who must cease earning and become a charge upon the community in mental hospitals, often for long periods of time. The cost of maintenance in state hospitals alone exceeds two hundred million dollars in the United States. And when we consider the cost of crime we get into astronomical figures.

In view of these tremendous expenditures it seems more than strange that a rich city like St. Louis which spends vast sums paying for the end-results of insanity and crime cannot afford to continue the appropriation of twelve thousand dollars a year out of a budget of two and a half millions for a psychiatric clinic to study the problems of childhood and arrest morbid processes in their incipency.

The St. Louis Municipal Psychiatric Clinic was established in 1923 after a demonstration period of seven months conducted by a group financed by the Rockefeller Foundation. Since that time 674 clinics of similar personnel have been organized in the United States. Their utility is everywhere acknowledged. The St.

Louis clinic has examined more than 4000 children and now has over 1000 under guidance and treatment.

The old idea that misconduct can be corrected by punishment alone is rapidly being discarded. Among children and adults it is found necessary to estimate the mental equipment and to study the psychological factors involved. Although the work is slow and relatively costly not many need be saved in order to offset the cost of the enterprise. Single court trials often cost as much as the clinic expense for an entire year.

If mental disorder is checked in even a few instances through the work of the Municipal Psychiatric Clinic, St. Louis would be the gainer not only in money saved but would serve this peculiarly helpless group from becoming a charge upon the community and making them at least partially if not wholly self-supporting.

THE CANCER SURVEY IN ST. LOUIS AND ST. LOUIS COUNTY

A service of unique and unusual value has been rendered the St. Louis Medical Society, the St. Louis County Medical Society and the medical profession of Missouri, by the cancer survey made by the American Society for the Control of Cancer, a resumé of which appears on another page in this issue.*

The medical societies are to be commended for their interest in the cancer problem as shown by the request for the survey and a report of findings with recommendations. The survey was made without cost to the societies by the Cancer Society in return for the contributions made in the past by St. Louis and St. Louis County to the resources and work of the national organization. After a careful and extended study the special committees of the local societies, to whom the report was referred, recommended its acceptance, the approval of the recommendations and the appointment of permanent committees to represent the societies in carrying out the suggested program. The societies also felt that the information should be made freely available to the profession of the State.

Several new and important facts were developed by this survey. It was found that the great majority of cancer cases in St. Louis are being seen by a few physicians only. Five per cent of more than two hundred St. Louis physicians who furnished information about their cancer patients was caring for 66 per cent of all the cases reported by this group. The

*Page 249.

situation of a few physicians caring for a majority of the cancer cases also held in St. Louis County although not to such a marked degree. Twenty per cent of twenty-six physicians who reported cases under treatment or observation were caring for 60 per cent of the total number of cancer patients reported in the County. It was also found that but 2.4 per cent of the adult admissions to the general hospitals of St. Louis were cancer patients. These two facts are strong arguments for the development of special facilities in a few places where adequate diagnostic and therapeutic service can be provided for the care of these patients.

The control of cancer is one of the greatest challenges to the medical and allied sciences today. The unknown etiology and insidious onset are difficult problems to combat, but professional cooperation in the use of all available knowledge is one of the surest means of conquering this disease. The average physician sees too few cancer patients to take a special interest in this disease. It is much better for the patient and the profession that cancer be treated in hospitals equipped with adequate diagnostic and treatment facilities. Not only will such cases receive better treatment but an opportunity will be offered for the study of a large number of cases and the keeping of more adequate records.

There is yet much to be learned concerning cancer diagnosis and treatment. Irradiation by deep therapy and radium is still in its infancy and too few physicians are competent to use it effectively. In the hands of novices it is a dangerous agent. A general study of this question might well be carried out by the American Medical Association in order to establish the extent of abuse of this therapeutic agent and to formulate means for its control.

The survey also presents further evidence of the wide area from which patients are drawn to St. Louis hospitals. With the hospital and medical school facilities available in that city it is but natural to expect such findings and when the recommendations for better organization of cancer treatment facilities and better educational purposes are put into effect, St. Louis should become an outstanding center for the diagnosis and treatment of this disease.

The large volume of work which is being done on a very meager budget by Barnard Free Skin and Cancer Hospital, the only special cancer hospital west of the Mississippi River, should be of interest to all those philanthropically inclined. A distinct service is being rendered a large number of indigent cancer patients by this institution.

The survey report emphasizes means by

which the local health department can contribute to the solution of the cancer problem without in any way encroaching on the prerogatives of the medical profession. The chief function of the health department is held to be educational in character, providing statistical material and other data for the private practitioner and the hospital thus enabling them to do better work.

Finally, this survey furnishes an example of cooperation between organized medicine and a national health organization whose function is largely educational. Such studies by an unbiased organization familiar with the problem throughout the country cannot but benefit the profession. Such an analysis of problems, often too close to the daily work of the physician to be seen in their true perspective, enables physicians as a group to make a contribution of great importance to social welfare and gives additional evidence of their ability to deal with questions of primary importance to the community.

EXPANDING THE SCOPE OF THE MISSOURI SOCIETY FOR MENTAL HYGIENE

The mental hygienist has probably never been needed as badly as he is today. In the present crisis fear appears to be one of the chief driving forces of our behaviour manifestations and helplessness the dominant attitude. Meeting such a problem demands a realistic conception of human nature and its possibilities for change as well as factual analyses of the technical and financial features of the situation.

It is very appropriate that at this time the Missouri Society for Mental Hygiene is reorganizing and attempting to expand beyond its former centralization in a few cities and become truly a state society. One of the first gestures in that direction is the publication of a bulletin, the *Mental Health Observer*, the first issue of which appeared in April. This will be the official organ of the society and, as stated in an editorial, will attempt "to help turn into account the knowledge of human nature and social needs we already possess." The bulletin will be issued five times yearly.

The importance of mental hygiene in the treatment of mental diseases and the study of misbehaviour was recognized by a few earnest students in Missouri before the establishment of the Missouri Society for Mental Hygiene. Dr. Turner R. H. Smith was appointed by Governor Austin A. King in April, 1851, as the first superintendent of State Hospital No. 1 at Fulton when the hospital was still

under construction. The hospital was opened December 1, 1851. The first report of Superintendent Smith was made to Governor King in November, 1852. Dr. Smith had urged the use of employment and entertainment in the treatment of mental cases. Dr. Smith was sent by the State to the meeting of the association of asylum superintendents, the precursor of the American Psychiatric Association. Later the St. Louis Sanitarium sent qualified attendants to New York mental hospitals to learn their methods.

The Missouri Society for Mental Hygiene has been active in St. Louis and in Kansas City and recently a local chapter was organized in Cape Girardeau.

Among the undertakings of the organization have been a survey of the insane in Missouri in 1919 which was financed by the Rockefeller Foundation; a report on local conditions in 1922; an active part in the inauguration of the St. Louis Municipal Psychiatric Clinic and in the creation of the School of Training for the Feeble-minded. The work of the society has broadened from an interest in improving conditions in institutions for mental disease to include an interest in the individual adjustments of problem children as well as in normal individuals of all ages and educational, economic and social activities that affect human welfare.

The officers of the organization are Dr. M. A. Bliss, St. Louis, honorary president; Dr. James Lewald, St. Louis, president; Dr. Emmett F. Hctor, Farmington, vice president, and Mr. A. W. Jones, St. Louis, secretary-treasurer.

A NEW MEDICAL JOURNAL

A new medical journal has been launched by a coterie of southern surgeons, the first number having been issued last April. It is titled the *Southern Surgeon*. For the present it will be a quarterly and is to be devoted to the promotion of surgery and the recognition of work accomplished by surgeons in the South. The group of southern surgeons sponsoring the publication, it is said in an editorial, felt that the *Southern Medical Journal* and the various state medical journals, practically the only medical periodicals published south of St. Louis and Baltimore, do not furnish a channel sufficient for the southern physicians to record their achievements.

While the new journal will be strictly southern, even carrying a cover in Confederate gray, it will not be provincial. Its policy as stated in the editorial in the first issue aims to provide southern surgeons with excellent papers, and hopes to enlist their interest by show-

ing them what their neighbors are doing. One of its principal purposes is to encourage the young men.

Quoting from the editorial, the sponsors "were determined that the new journal could afford to publish only the finest medical literature; that its size and appearance, its paper and printing, its illustrations and the other things that go to make up a magazine, must all be of the best: in short, that the journal must be one in which every Southerner could take pride." The journal will be the official organ of the Southeastern Surgical Congress and the first number contains principally papers that were read at the 1931 session of the congress. These contributions and the make-up of the first issue indicate that the standards established by the sponsors are being met.

Dr. L. Minor Blackford, Atlanta, is the editor; Dr. B. T. Beasley, Atlanta, is managing editor; Dr. Roy B. McKnight, Charlotte, is associate editor, and Dr. Gilbert F. Douglas, Birmingham, is assistant editor. The advisory editorial board includes the following eminent southern physicians: Drs. Frank K. Boland, Edgar G. Ballenger and C. W. Roberts, Atlanta; Hubert A. Royster, Raleigh; Willis C. Campbell, Memphis; C. Jeff Miller and Rudolph Matas, New Orleans; W. D. Haggard, Nashville; J. Shelton Horsley, Richmond; Hugh H. Young, Baltimore, and W. W. Harper, Selma, Alabama.

NEWS NOTES

There are approximately 2,000 lepers in the United States.

An insurance company estimates that it costs the average family \$7200 to care for the average child from birth to eighteen years.

Dr. G. B. Arnold, Kansas City, was elected president of the Kansas City Urological Society at a recent meeting. Dr. F. G. Dillon, Kansas City, was elected vice president and Dr. I. S. Brown, Kansas City, was elected secretary-treasurer.

Dr. Alfred N. Lemoine, Kansas City, was elected president of the Kansas City Society of Ophthalmology and Oto-Laryngology April 21. Other officers are: Dr. Paul Lux, Kansas City, first vice president; Dr. W. C. Proud, St. Joseph, second vice president; Dr. Harold B. Hedrick, Kansas City, secretary, and Dr. W. Byron Black, Kansas City, treasurer.

Almost 300,000 pedestrians suffered injuries in traffic accidents last year.

An eminent bacteriologist says that boiling the food gives the greatest safety against botulism.

The average meat ration per person in the United States is a little more than a third of a pound daily.

A study of deaf mutes in Germany showed that about 10 per cent were born deaf and 21 per cent were the result of scarlet fever.

The Government bulletin, "Infant Care," is a real best seller, more than 6,300,000 copies having been distributed and sold since the first edition was published in 1914.

Dr. William T. Coughlin, St. Louis, was a guest of the St. Clair County (Illinois) Medical Society in East St. Louis on May 5 and delivered an address on "Brain Tumors That Are Overlooked."

Dr. Stanley S. Burns, St. Louis, was a guest of the Illinois State Dental Association at the annual meeting held in Springfield, Illinois, May 10 to 12. He addressed the association on "My Neighbor—The Dentist."

Dr. J. Curtis Lyter, St. Louis, was the guest of the Lincoln County (Illinois) Medical Society at Lincoln on April 22 and delivered an address on "The Clinical Recognition of Diseases of the Coronary Arteries."

Dr. Walter S. Hull, Faucett, was reappointed county health officer of Buchanan County by the county court on April 18. He completed a three-year term on April 1 and was reappointed for a term of similar duration.

The International Congress on Biliary Disease will meet at Vichy, France, September 19 to 22. Representative authorities from the leading countries of Europe, North and South America and Asia will present addresses on all phases of liver and biliary tract diseases. There will be sections on roentgenology, experimental investigation, therapy, operative technic and pathology. The official program of the congress and information regarding steamship rates, hotel accommodations, etc., may be obtained by addressing Dr. Frank Smithies, president of the Congress for the United States, 920 North Michigan Avenue, Chicago.

Governor Caulfield has appointed Dr. Charles E. Hyndman, St. Louis, a member of the Missouri State Board of Nurse Examiners to fill the unexpired term of Dr. Louis J. Wolford, St. Louis, who died recently.

Dr. Duff S. Allen, St. Louis, was reelected secretary of the American Association for Thoracic Surgery at the annual session of the society held in Ann Arbor, Michigan, April 18 to 20. Dr. Evarts A. Graham, St. Louis, was appointed editor of the *Journal of Thoracic Surgery*, the official organ of the society.

Kansas City and St. Louis won honor places in the nation-wide health contest sponsored during 1931 by the United States Chamber of Commerce. Two hundred sixty-five cities competed and were judged on their health activities and the results. The cities were grouped according to size. St. Louis won one of the six places awarded in the group of cities over 500,000 and Kansas City in the group of cities from 250,000 to 500,000.

Increased efficiency in food purchasing and production methods enabled the State Eleemosynary Board to feed, clothe and house a thousand more inmates in the six institutions under its control during the last year than in the previous year and at a saving of \$220,000 over the previous year, according to Roy H. Monier, president of the board. The six institutions under direction of the board had an average population of 9006 during March, divided as follows: State Hospital No. 1, Fulton, 1687; No. 2, St. Joseph, 2766; No. 3, Nevada, 1974; No. 4, Farmington, 1126; Missouri State School, Marshall, 1090, and State Sanatorium, Mount Vernon, 363.

Dr. W. H. Allen, Rich Hill, was guest of honor at the home of a son in Hume on May 1 where a number of friends had gathered to celebrate his eighty-second birthday. Dr. Allen has practiced medicine in Rich Hill for fifty-seven years and is an Honor Member of the Bates County Medical Society and the State Medical Association. He was born in Frankfort, Kentucky, and received his education in the Kentucky Military Institute in Frankfort and the University of Louisville School of Medicine. After completing his medical education he taught chemistry for two years and then moved to Rich Hill and began his practice which he has continued for more than half a century. He now maintains an office with his son, Dr. Claude J. Allen.

The discovery of a bacteriophage capable of destroying the staphylococci found in the circulating blood in certain types of septicemia was reported by Drs. W. J. MacNeal and Dr. Frances C. Frisbee, of the New York Post-Graduate Medical School and Hospital, at a joint meeting of the American Association of Pathologists and Bacteriologists and the American Association of Immunologists in Philadelphia on April 28. The bacteriophage was used in several ways, (1) applied to open wounds, (2) injected into the tissues, and (3) injected into the blood stream. In a series of fifteen cases eight patients died and seven recovered. Dr. MacNeal thinks further improvement in the death rate will result as greater skill is acquired in the use of this agent.

A method for preventing adhesions following operations was described by Dr. Robert P. Walton, New Orleans, before a group of physicians in New Orleans recently. Collaborating in the work were Drs. Alton Ochsner and Earl Garside, of New Orleans. A solution of the protein-dissolving enzyme, papain, containing .002 per cent of the dry powder, was used for digesting the adhesions. In experimental animals it was found that adhesions broken by surgical operation reformed in most cases but if the weak papain solution was introduced at the time of the operation the adhesions reformed in a much smaller proportion of cases. It was suggested that the exuded fibrin was sufficiently dissolved to prevent its development into permanent adhesions.

Two hundred seventy-two physicians attended the first annual spring symposium of the Kansas City Southwest Clinical Society which was held at Bell Memorial and Kansas City General hospitals in Greater Kansas City on April 19 and 20. Seven states were represented in the registration and more than a hundred of the registrants were from outside of Kansas City.

Thirty-four members of the society took part in the two-day heart symposium which covered practically the entire field of cardiology. These men delivered papers, presented cases, demonstrated pathological specimens and discussed the various phases of treatment of heart disease. Copies of the lectures in the symposium were mimeographed.

It is planned that the next spring symposium shall be on the subject of gastro-enterology. The June meeting of the regular monthly clinics will be held June 14 at the Children's Mercy Hospital. No meetings will be held in July and August.

The steadily increasing number of sight-saving classes which are being established by public school boards throughout the country is increasing the demand for teachers and supervisors of this work. In order to prepare teachers for this service summer courses will be offered this year by four universities in cooperation with the National Society for the Prevention of Blindness. The schools are: University of Cincinnati, Cincinnati; University College, University of Chicago, Chicago; Teachers College, Columbia University, New York, and State Teachers College, Buffalo.

Twenty-two sight-saving classes were organized in 1931, bringing the total in the United States to 398 classes located in 114 cities in 23 states. The annual report of the National Society for the Prevention of Blindness which was recently made public estimates that 4600 sight-saving classes are still needed in order to care for all school children requiring special eye care.

The annual spring clinic of the St. Joseph Clinical Society was held at the St. Joseph's and Missouri Methodist hospitals in St. Joseph on April 20 and 21. Clinics were held at the two hospitals in the morning and afternoon of both days and guests presented addresses at luncheon and dinner meetings. Dr. Arthur Steindler, Iowa City, professor of orthopedic surgery at the University of Iowa, led a round-table luncheon discussion on the first day and Dr. V. S. Counseller, Rochester, Minnesota, delivered a lecture at a banquet in the evening. Dr. Edward J. Stieglitz, Chicago, professor of medicine at the University of Chicago, conducted a round-table discussion following a luncheon on the second day. The clinic closed with a banquet at which Dr. Vilray P. Blair, St. Louis, professor of plastic surgery at Washington University, spoke on remodeling the face. The members of the Northwest District Dental Society of Missouri, which was in session in St. Joseph on April 21, were guests of the Clinical Society at the banquet.

In charge of the local arrangements for the clinic were Drs. Floyd Spencer, W. Roger Moore, Jenner G. Jones, C. H. Wallace, Gregg Thompson, E. M. Shores, L. H. Fuson and O. E. Whitsell. Others who took part in conducting clinics during the two-day session were Drs. J. J. Bansbach, F. J. Berney, C. S. Branson, J. I. Byrne, H. S. Conrad, L. Paul Forgrave, L. R. Forgrave, Charles Geiger, C. A. Good, Charles Greenberg, F. N. Hartigan, W. J. Hunt, W. L. Kenney, G. A. Lau, E. A. Miller, Caryl Potter, J. H. Ryan, W. F. Schmid, A. J. Smith, Mathew H. Talty, C. H. Wallace, Jr., and H. K. Wallace.

The Hudson County (New Jersey) Medical Society, a component society of the Medical Society of New Jersey, published a newspaper advertisement April 18 containing the names of all the society's 450 members, listed alphabetically and also by towns. Other advertisements are to follow and are planned to include explanations of some of the services of the society such as the 24-hour physicians' and surgeons' telephone exchange. The purpose of the announcement was to acquaint the people with the names of those physicians who are members of the regular medical profession and in good standing with the county and state medical societies. It was thought this announcement and others to follow will serve "to protect the public against the practice of irresponsible and unscrupulous practitioners of the healing art."

Dr. Augustus G. Pohlman, St. Louis, research professor of anatomy in St. Louis University School of Medicine, has been appointed dean of the School of Medicine of the University of South Dakota at Vermilion. He will also hold the chair of anatomy and be director of the department. Dr. Pohlman will leave St. Louis in June to take up his new duties.

Dr. Pohlman came to St. Louis University in 1913 after having been associated with the University of Indiana Medical School since 1904. He received his medical training at the University of Buffalo, Cornell University, the University of Freiburg and Johns Hopkins University. He occupied the chair of anatomy and acted as director of the department of anatomy in St. Louis University until 1929 when he was granted a year's leave of absence to do special research work in the University of Buffalo on the causes and treatment of deafness, problems to which he had already made some notable contributions. Upon his return to St. Louis he was appointed research professor in anatomy in order to free him from administrative duties while continuing his studies on deafness. He has developed considerable apparatus for the quantitative measurement of the acuity of hearing and perfected an audiometer for accurate testing of the hearing of deafened individuals and recording the results for future comparisons.

Not only is Dr. Pohlman well known for his research work in the medical field and his contributions to scientific medicine but he is a popular speaker before lay organizations in discussing scientific subjects pared of their technical phrases in a witty fashion and in readily understandable phraseology.

Despite the continuing business depression and increasing unemployment, the Metropolitan Life Insurance Company reports that the death rate for children between the ages of 1 and 14 in families of insured wage earners was lower during 1931 than in 1930. In 1931 this death rate was 2.65 per 1000 while in 1930 it was 2.7 per 1000. During the period from 1911 to 1915 it was 6.14 per 1000. The company's figures show that the lowest occupational death rate for all ages in twenty years occurred during the period of greatly reduced industrial activity in 1931. The 1931 rate was 12 per cent below that of 1930. The next lowest rates were in 1915 and in 1921 when business activity was also low and unemployment widespread.

The third annual postgraduate course and clinical conference of the St. Louis Clinics was held May 16 to 27 in St. Louis. Interest in the clinics was proved widespread by registrations from Ohio, Kansas, Illinois, South Dakota, Colorado, Michigan, Nebraska, Ontario, Canada, and Mexico.

Two open meetings were well attended and occasioned much interest. On May 17 the general meeting was a symposium on tuberculosis and Drs. J. F. Bredeck, George D. Kettelkamp and Louis C. Boisliniere, of St. Louis, delivered addresses. Several interesting clinical cases were presented before a large group on the evening of May 24. The entire course was presented this year by St. Louis physicians. The meeting was not arranged in courses, the subject matter being chosen to meet the needs of the general practitioner. The hospitals cooperating were Barnes, St. Louis Maternity, Jewish, De Paul, Evangelical Deaconess, City Hospital No. 1, Barnard Free Skin and Cancer, St. Mary's, St. John's, Missouri Baptist and St. Luke's. Headquarters were in the St. Louis Medical Society Building.

The latest developments in important fields of medicine were reported and discussed at the meeting of the College of Physicians held in San Francisco from April 4 to 8.

Included in the data presented, Drs. G. F. Strong and H. H. Pitts of Vancouver, British Columbia, presented information that led them to believe they had found new evidence that cancer may be caused by chronic irritation. They described ten cases of cancer of the liver occurring in Chinese patients, apparently the result of irritation caused by the liver fluke.

On the basis of more than a thousand cases under treatment, Dr. C. F. Tenney, New York

City, told the physicians that the short-wave radio method is the best yet devised for creating high fevers in the body to combat the germs of certain diseases.

Dr. William S. Middleton, Madison, explained how tongue prints made on smoked paper show the course of certain diseases in which the tongue becomes inflamed and eventually wastes and shrinks. Among the diseases listed were pernicious anemia, pellagra, sprue and tapeworm infestation. Dr. Middleton thinks the study of the tongue made through the use of the smoked paper prints may reveal important facts about the cause of the diseases.

The discovery of an enzyme which breaks down the complex sugar of the capsule of the pneumococcus was announced by Dr. Oswald T. Avery of the Hospital of the Rockefeller Institute for Medical Research. When the enzyme, which is produced by a microorganism found in peat soil, breaks down the capsule the pneumococcus is unprotected.

The following articles have been accepted for New and Nonofficial Remedies:

Chappel Bros., Inc.

Chappel Liver Extract (Oral)

Chappel Liver Extract (Subcutaneous)

Ampoules Chappel Liver Extract (Subcutaneous), 2.5 c.c.

Gilliland Laboratories, Inc.

Diphtheria Schick Test Toxin, Diluted Ready for Administration—Gilliland

Diphtheria Toxoid—Gilliland

Hoffmann-La Roche, Inc.

Digalen Injectable—Roche

Lederle Laboratories, Inc.

Banana Allergenic Extract—Lederle, Beef Allergenic Extract—Lederle, Chicken Meat Allergenic Extract—Lederle, Codfish Allergenic Extract—Lederle, Cornmeal Allergenic Extract—Lederle, Crabmeat Allergenic Extract—Lederle, Green Pea Allergenic Extract—Lederle, Horse Serum Allergenic Extract—Lederle, Lamb Allergenic Extract—Lederle, Lima Bean Allergenic Extract—Lederle, Milk Allergenic Extract—Lederle, Orange Allergenic Extract—Lederle, Pork Allergenic Extract—Lederle, Pyrethrum Allergenic Extract—Lederle, Rice Allergenic Extract—Lederle, Rye Allergenic Extract—Lederle, Spinach Allergenic Extract—Lederle, Tobacco Allergenic Extract—Lederle, Wheat Allergenic Extract—Lederle, White Potato Allergenic Extract—Lederle, Chocolate Allergenic Extract—Lederle, Sheep Dander Allergenic

Extract—Lederle, Horse Dander Allergenic Extract—Lederle, Orris Allergenic Extract—Lederle, Cow Dander Allergenic Extract—Lederle, Flaxseed Allergenic Extract—Lederle, Cottonseed Allergenic Extract—Lederle, Feathers Allergenic Extract—Lederle, Goat Dander Allergenic Extract—Lederle, Buckwheat Allergenic Extract—Lederle, Almond Allergenic Extract—Lederle, Peanut Allergenic Extract—Lederle, Dog Dander Allergenic Extract—Lederle, Egg White Allergenic Extract—Lederle, Kapok Allergenic Extract—Lederle, Mustard Allergenic Extract—Lederle, Cat Dander Allergenic Extract—Lederle, Rabbit Dander Allergenic Extract—Lederle

Concentrated Pollen Antigens—Lederle, Series A, B, C, D, E

Ragweed Combined Pollen Antigens—Lederle, Series E and F

H. A. Metz Laboratories, Inc.

Ampules Salyrgan Solution, 2 c.c.

National Drug Co.

Undulant Fever Vaccine

Scott & Bowne Laboratories

Scott's Norwegian Cod Liver Oil (Plain)

Scott's Norwegian Cod Liver Oil (Flavored)

Scott's Emulsion of Cod Liver Oil

Wall Chemicals, Inc.

Walco Ethylene for Anesthesia

The following articles have been exempted and included with the List of Exempted Non-medicinal Articles (New and Nonofficial Remedies, 1931, p. 481):

Lederle Laboratories, Inc.

Glycerinated Allergenic Extracts—Lederle

Calco Chemical Co., Inc.

Methylthionine Chloride (Calco)

Merax, Inc.

Merax Mercury Cyanide Solution

OBITUARY

CAROL SKINNER COLE, M.D.

Dr. Carol S. Cole, St. Louis, a graduate of Washington University School of Medicine, 1922, was killed in an airplane accident near Steubenville, Ohio, March 21. She was 44 years old.

Dr. Cole was enroute to the bedside of her daughter, Mrs. William Bingham, of New York City, who was ill, and chose to go by a night mail plane rather than delay her departure until the following day. Adverse weather conditions are said to have been the cause of the accident in which Dr. Cole and the pilot lost their lives. Dr. Cole's body was recovered from the Ohio River April 21.

A memorial service was conducted in St. Louis and interment was in Newton, Kansas.

Dr. Cole had been an inspector in the hygiene department of the St. Louis Board of Education since 1926. She was a past president of the Women Physicians of the St. Louis Medical Society and was active in all professional interests. She interested herself in other activities also, being a member of several organizations. She was held in high esteem by her colleagues in the medical profession and a host of friends mourn her untimely death.

Dr. Cole was a member of a family well represented in the medical profession. Dr. Caroline Skinner, an active practitioner of St. Louis, is her mother and Dr. Edward H. Skinner, Kansas City, is a brother. A son and a daughter also survive.

MARC RAY HUGHES, M.D.

Dr. Marc R. Hughes, St. Louis, a graduate of the Barnes Medical College, St. Louis, 1898, died April 4 in the Deaconess Hospital of pneumonia, aged 54.

Dr. Hughes was a son of the late Dr. Charles H. Hughes, an alienist of national prominence. He was educated in Washington University, Benton Law College and Barnes Medical College. He was professor of neurology and psychology in the latter institution and was associated with his father in the publication of the *Alienist and Neurologist*.

Dr. Hughes was a colonel in the Medical Reserve Corps during the World War, stationed in Manila, P. I.

Dr. Hughes was active in medical interests and was well loved and esteemed by his colleagues. A large number of friends mourn his death. He is survived by his widow, Mrs. Rosalie Hughes, and two brothers.

ACCESSORY SINUS INFECTION IN SUSPECTED PULMONARY TUBERCULOSIS

JOHN D. OSMOND, Cleveland (Journal A. M. A.), gives the case histories of five patients in whom chronic sinusitis was followed by the appearance of pathologic changes in the lungs. In such cases the clinical symptoms may closely simulate active pulmonary tuberculosis. Râles and elevation of temperature are present. A careful history should prompt a roentgen examination of the sinuses in at least 9 per cent of chest cases examined. Fluoroscopic examination of the chest has very limited differential diagnostic value in determining early tuberculosis and no value in distinguishing early tuberculosis from chronic infection. When a known sinusitis exists, a stereoscopic chest study is indicated to determine the degree of pulmonary changes due to chronic infection. These roentgenograms have immense comparative value for later examinations.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL FOR 1932

(UNDER THIS HEAD WE LIST SOCIETIES WHICH
HAVE PAID DUES FOR ALL THEIR MEMBERS)

HONOR ROLL

Ste. Genevieve County Medical Society,
December 16, 1931.

Miller County Medical Society, December 23, 1931.

Mercer County Medical Society, December 24, 1931.

Camden County Medical Society, January 5, 1932.

Johnson County Medical Society, January 20, 1932.

Dent County Medical Society, January 22, 1932.

Macon County Medical Society, February 10, 1932.

Webster County Medical Society, March 21, 1932.

Platte County Medical Society, April 7, 1932.

Pulaski County Medical Society, April 8, 1932.

Schuyler County Medical Society, April 14, 1932.

Ralls County Medical Society, April 22, 1932.

Wright-Douglas County Medical Society, April 26, 1932.

Barry County Medical Society, May 2, 1932.

Chariton County Medical Society, May 5, 1932.

THE FIVE-COUNTY MEDICAL GROUP OF SOUTHEAST MISSOURI

The Five-County Medical Group of Southeast Missouri held its first quarterly meeting of 1932 at Poplar Bluff on March 8. Physicians from neighboring counties were invited to attend and ten of them were present. The program made this meeting one of far-reaching educational value to laymen, nurses and physicians.

Southeast Missouri has long been reputed for its pioneering in all progressive movements for the betterment of human living and the physicians were quick to aid in a new type of program for this meeting. The specific purpose was to educate the laity, nurses and physicians in the most modern developments in the treatment and prevention of tuberculosis.

The Butler County Medical Society deserves great praise for its assistance to Dr. James F. Elder, Poplar Bluff, district health officer for that county, in the excellent arrangements for clinics, lecture rooms, general meeting places and a most excellent banquet. The ladies of the First Baptist Church deserve a special vote of thanks for the bountiful and well-balanced banquet.

The program was under the auspices of the Missouri Tuberculosis Association and was arranged through the able secretary, Mr. J. W. Becker, St.

Louis. The clinics were held in the courthouse with Dr. Sam Snider, Kansas City, acting as chief clinician. Drs. E. E. Glenn, Mount Vernon; G. D. Kettelkamp, St. Louis; J. E. Elder and F. L. Kneibert, Poplar Bluff, assisted in the examinations. Dr. Kneibert deserves special mention because of his untiring and efficient work in making the roentgen ray pictures.

Assisting in the clinic were Mrs. Carl Abbinton; Mrs. Edith Cruce, metropolitan nurse of Poplar Bluff; Miss Virginia Stockard, health nurse of Howell and Oregon counties; Miss Martha Sander, health nurse of Wayne and Reynolds counties; Miss Ann Simonis, health nurse of Texas and Shannon counties; Miss Rachel Wagenblast, health nurse of Butler County, and Miss Edith Ross, chief nurse of District No. 3, State Health Department.

The entire day from 10 a. m. to 6 p. m. was devoted to the clinic, ninety patients being examined during the day. Twenty-six were diagnosed as positive tuberculosis, fourteen being adults and eleven being children. Eleven were positive to the Mantoux reaction. Fourteen were roentgen rayed, all showing remarkable pictures demonstrating varied stages of childhood and adult tuberculosis.

During the day a number of talks of educational value were given with Dr. W. W. Johnston, health director of Cape Girardeau, presiding over "A Tuberculosis Control Program." Miss Ida Brosard, supervising district nurse from Cape Girardeau, read a most interesting and instructive paper entitled "Case Finding: The Public Health Nurse." Miss Elsie Barnes, Miss Mae Murphy, Dr. Frank LaRue, Dexter, and Dr. U. P. Haw, Benton, gave talks.

Dr. Paul Baldwin, Kennett, gave an unusually good essay entitled "Pulmonary Tuberculosis and the Family Physician." He termed tuberculosis the commonest, most fatal and the saddest malady of mankind. He pointed out with justifiable pride that within 40 years the death rate has decreased 50 per cent or more without the aid of a specific remedy, the application of sensible rules of living and hygienic regimen being entirely responsible. He stressed that nearly 90 per cent could and should be treated in the home provided the physician uses much patience, becomes a conscientious teacher and cheerfully encourages his patient. The same armamentarium is found in the home that is found in the sanatorium; namely, fresh air; more important, food; and, most essential, rest. The value of rest, he emphasized, is still too little realized.

Dr. F. L. Ogilvie, health officer of Caruthersville, gave a splendid address entitled "Sanatorium Care and the County Court." He mentioned the great responsibility of county courts regarding hospitalization of patients and our appreciation of the many difficulties under which the courts labor in their efforts to do this duty. Dr. Ogilvie believes the responsibility of courts may be divided into three heads: (1) Responsibility to the community; (2) responsibility to the family; (3) responsibility to the individual patient. It is, he believes, the duty of the county court to maintain an organization to give advice, attention, assistance and time to follow-up families with cases of tuberculosis.

Dr. G. D. Kettelkamp, of Koch Hospital, Koch, Mo., gave an essay entitled, "Sanatorium Care and After-Care of Tuberculous Patients." He inferred from the beginning that the treatment whether in the home or the sanatorium can be summed up in the following: Proper food, proper rest, and, later, regulated exercise. In most instances he believes that all cases can be far more satisfactorily handled

in the sanatorium for at least 3 to 6 months. In many cases he thinks it probable that the food problem may be better taken care of in the home. The remainder of the treatment is better cared for in the sanatorium where regular systematic rules can be carried out under the guidance of those properly trained in handling these cases. He classed patients in one of five groups; namely, (1) strictly bed patients; (2) bed patients with toilet and bath privileges; (3) patients with specified rest periods; (4) patients permitted to go out of doors on level ground, and (5) patients allowed gradual increasing exercise.

Scientific Program

At 6:30 p. m. the physicians and nurses assembled in the basement of the First Baptist Church where the Ladies Circle served a bountiful banquet.

Dr. J. L. Harwell, Poplar Bluff, president of the Butler County Medical Society, presided over the meeting with his usual efficiency and good humor. Dr. John L. Brown, of Perry, gave an appropriate invocation and Mayor Stokley made a short but splendid address of welcome. Dr. J. B. Luten, Caruthersville, in his own individual way, responded to the address of welcome for the Five-County Group. Drs. Sam Snider, Kansas City; W. W. Johnston, Cape Girardeau; James Elder, Poplar Bluff; Mr. J. W. Becker, St. Louis, and Mrs. E. E. Glenn, Mount Vernon, were after-dinner speakers.

Dr. M. P. Ravenel, Columbia, internationally known bacteriologist of the Missouri University Medical School, was guest of honor and took for his subject "Calmette—The Living Hero." The doctor went into some interesting details of the long and important researches of Calmette, elucidating step by step the development of a most promising vaccine to eradicate tuberculosis. Nurses, doctors and laymen showed great appreciation of this wonderful talk and only wished that time permitted of his talking for a much longer time.

Dr. Sam H. Snider, Kansas City, demonstrated a most important phase of tuberculosis with a father and four children. The mother, he stated, was too sick in bed with pulmonary tuberculosis to be present. The father, a very delicate little man, was found to have the disease and his roentgen ray picture pointed out the extent of the lesions. The four children ranging from 4 to 10 years showed no signs save positive Mantoux reactions and typical childhood tuberculosis in their roentgen ray films. Dr. Snider emphasized the importance of the reaction in children and the roentgen ray findings, also the importance of absence of symptoms and signs in children. He placed great significance in what he called couplets; that is, fever and tachycardia, fatigue and loss of endurance, cough accompanied with blood, etc. His remarks were to the point and most instructive.

Dr. E. E. Glenn, Mount Vernon, read a paper entitled "Childhood Type of Tuberculosis." He illustrated his lecture with many interesting roentgen rays of various types of childhood tuberculosis pointing out the importance of hilus widening and enlarged bronchial glands. He mentioned the great importance of findings in the upper chest and showed that shadows in the lower chest were apt to be caused by some other condition, especially a sinus condition usually more grave than tuberculosis. This was one of the most important papers of the day and from a diagnostic standpoint had much of importance for all.

Dr. Irl B. Krause, Jefferson City, assistant state health commissioner, concluded the program with a

short talk pointing out the great advantages in co-operation of practitioners, health workers and tuberculosis workers on the control of the disease, tuberculosis.

The meeting was unquestionably one of the most successful of its kind ever held in the State. About 200 persons registered during the day. One hundred patients registered and ninety were examined.

The next Five-County Group meeting will be held in New Madrid County on the first Tuesday in June. The special program will probably be a unique one made up of therapeutic subjects.

JOHN D. VAN CLEVE, M.D.,
Corresponding Secretary.

BUCHANAN COUNTY MEDICAL SOCIETY

Meeting of March 16

The regular bi-monthly meeting of the Buchanan County Medical Society was held at the St. Francis Hotel, St. Joseph, March 16. The president, Dr. A. E. Burgher, St. Joseph, called the meeting to order at 7 p. m., with sixty members present.

The application for membership of Dr. Matthew H. Talty, St. Joseph, was approved by the board of censors and Dr. Talty was elected to membership.

A communication from Dr. E. J. Goodwin, Secretary of the State Association, was read asking the officers and members of the Society to write our representatives in Congress to oppose the revivification and perpetuation of the Sheppard-Towner Maternity and Infancy Act. Dr. A. B. McGlothlan, St. Joseph, moved that the contents of the bill be read before the Society before any action be taken. The motion was duly seconded and carried.

A letter from Myron M. Meyer, chairman of the committee on churches, lodges and clubs, was read in which he asked that our Society cooperate with his committee to alleviate the unwholesome condition which prevails in our economic structure at the present time. No action was taken on this communication.

Dr. Earl C. Padgett, Kansas City, associate professor of oral surgery at the Kansas University School of Medicine, read a paper on "The Position of Surgery in the Treatment of Pulmonary Tuberculosis," illustrated with lantern slides.

The manner in which Dr. Padgett handled his subject showed that he had spent much time and thought in the preparation of his paper. A vote of thanks was extended to the Doctor for meeting with us.

Meeting of April 6

The meeting was called to order at 8 p. m. by the president, Dr. A. E. Burgher, St. Joseph.

Dr. Jenner G. Jones, St. Joseph, spoke in the interest of the spring clinics which will be held at both the hospitals in St. Joseph, April 20 and 21. All members of the Society are invited to become members of the St. Joseph Clinical Society and to take part in the clinic.

Two scientific papers were presented. Dr. L. G. Balding, St. Joseph, read a paper on "Progressive Myopia," which was discussed by Drs. W. L. Kenney and J. T. Stamey, St. Joseph; Dr. Balding in closing.

Dr. J. H. Ryan, St. Joseph, gave an interesting talk on "Oxygen Therapy," discussed by Drs. L. H. Fuson, R. Willman, M. H. Talty and L. Paul Forgrave, of St. Joseph; Dr. Ryan in closing.

Both papers were well prepared and of great interest to all. The discussions were spirited.

Meeting of April 20

This was a joint meeting of the Medical Society and the Clinical Society at a banquet at the Robidoux Hotel. Dr. A. E. Burgher, St. Joseph, president, presided. Sixty-five guests and members were present. The guest speakers and the titles of their addresses were:

Dr. V. S. Counseller, Rochester, Minn., "The Surgical Significance of the Fascia and Ligaments of the Pelvic Floor and Their Relationship to the Development of Cystocele and Pelvic Relaxation."

Dr. Arthur Steindler, Iowa City, "Ischemic Contractions of the Forearm."

The next meeting will be held on May 4, 1932.

EMMETT F. COOK, M.D., Secretary.

CHRISTIAN COUNTY MEDICAL SOCIETY

The Christian County Medical Society met in Ozark, April 7, 1932, and elected the following officers for 1932: President, Dr. J. H. Wade, Ozark; vice president, Dr. R. R. Farthing, Ozark; secretary, Dr. F. H. Brown, Billings; delegate to State Meeting, Dr. R. R. Farthing, Ozark; alternate delegate, Dr. H. J. Wise, Sparta.

F. H. BROWN, M.D., Secretary.

CLAY COUNTY MEDICAL SOCIETY

The Clay County Medical Society held its regular meeting at Liberty, Thursday evening, April 28, 1932, with the president, Dr. S. D. Henry, Excelsior Springs, presiding. The Jack-O-Lantern dining room was the serving place for a splendid dinner set for members, wives and visitors. Immediately after dinner the Woman's Auxiliary held their meeting at the home of Mrs. W. H. Goodson, Liberty.

The president announced Dr. R. H. Major, Kansas City, as the principal speaker of the evening, his subject being "Cardiac Irregularities." Dr. Major prefaced his stereopticon lecture with a brief history of cardiac diseases which produced irregularities; ancient observers had noticed at least sixty-six distinct varieties of pulse indicating abnormalities. It might puzzle a modern observer to find as many. He paid a splendid tribute to McKenzie, world leader in the study of cardiac rhythm.

After a history of the instruments for scientific recording of the heart beat, Dr. Major exhibited "miles" of sphygmograms, explaining the various "waves" and touching on the pathological conditions that produced visible markings. He told of many cases, past and present, and showed the tracings made by the electrocardiograph. He did not manifest any special dread of heart block and thought auricular fibrillation could more accurately be termed "auricular paralysis."

It might have been a "good number to take a nap on" if Dr. Major had not kept us all wide-awake by his thorough mastery of the subject and forceful way of saying things so that we could understand them. The lecture was discussed by everyone who heard it; all expressed keen appreciation. It was a wonderful meeting with twenty-eight present. One member paid dues.

J. J. GAINES, M.D., Secretary.

JASPER COUNTY MEDICAL SOCIETY

Meeting of April 19

Twenty-two members and nineteen visitors were present at the April 19 meeting of the Jasper County Medical Society.

Dr. A. B. Clark, Joplin, moved that the Society meet twice monthly alternating with the meeting of the staffs of the Freeman and St. John's hospitals. The motion was seconded by Dr. W. E. Craig, Joplin. After discussion by Drs. L. C. Chenoweth, J. W. Barson, S. H. Miller and John L. Sims, the motion was voted on and lost.

Dr. John L. Sims reported a case of possible pellagra which was discussed by Dr. James.

The scientific program was presented by Dr. F. M. Grogan, of State Hospital No. 3, Nevada, who discussed "The General Practitioner and Mental Disease." He stressed particularly syphilis and treatment of the central nervous system as practiced in the State hospital.

Dr. Grogan's talk was well received by the large number present and provoked an interesting discussion.

Dr. L. C. Chenoweth, Joplin, read the resolution of respect for Dr. U. G. Hoshaw, Joplin, as approved by the committee appointed for that purpose. On motion the resolution was adopted. The resolution follows:

Resolution On Death of Dr. Hoshaw

Dr. U. G. Hoshaw, Joplin, died April 13, 1932, after an illness lasting for several weeks.

Dr. Hoshaw had practiced medicine here for about twenty years and during that time had an enviable practice and a loyal clientele who will miss his kindly administrations during their sickness and who esteemed his advice relative to their health as only a grateful patient who reposes confidence in his physician can.

In addition to his general practice he held the office of county physician and performed the duties of that office with dignity and honor to himself and with devotion toward those to whom he ministered.

He was a member of the Jasper County Medical Society and upheld its traditions and the honor of his profession at all times.

The undersigned, a committee appointed by the Society, to draft suitable resolutions in memory of Dr. Hoshaw offer the above and suggest that it be spread on the Society's records and a copy be sent to his widow.

L. C. CHENOWETH
R. L. NEFF
H. A. LEAMING

O. T. BLANKE, M.D., Secretary.

ST. FRANCOIS-IRON-MADISON COUNTY MEDICAL SOCIETY

The regular monthly meeting of the St. Francois-Iron-Madison County Medical Society was held in the county court room at Farmington, Thursday evening, April 21, 1932. Dr. Dailey Appleberry, River Mines, presided. The speakers for the evening were Drs. George Ives and A. B. Jones, St. Louis, sent to us through the courtesy of the Postgraduate Committee of the State Association.

Dr. Ives rendered a splendid program on the following subjects: (1) "The Schilling Differential Blood Count"; (2) "The Diagnosis of Malignancy by Cytology of Effusion"; (3) "A Case of Coccioid Granuloma." The last two subjects were illustrated with lantern slides.

An interesting paper on "Acute Disseminated Encephalomyelitis" was read by Dr. A. B. Jones.

The papers were well received and thoroughly enjoyed by every one.

The next meeting will be held in Farmington

C. H. APPLEBERRY, M.D., Secretary.

WRIGHT-DOUGLAS COUNTY MEDICAL SOCIETY

The Wright-Douglas County Medical Society met in the Young Hotel, Mansfield, April 21, at 1:30 p. m., with the following members and visitors present: Drs. J. D. Ferguson, J. L. Gentry and R. M. Norman, of Ava; Dr. J. A. Fuson, Mansfield;

Drs. A. C. Ames, R. W. Denney, R. A. Ryan and C. F. Green, of Mountain Grove; Dr. E. G. Beers, Scymour; Drs. John D. Hayward, F. L. Morse and Thomas J. Kemp, of St. Louis, and Dr. H. L. Meador, Clayton. The scientific program was furnished by Drs. Morse and Hayward.

Dr. Hayward discussed "The Acute Abdomen" and especially gastric and duodenal perforating gall-bladder troubles and appendicitis, pointing out the differences in the latter according to the various locations of the appendix. He illustrated the subject with lantern slides and dwelt on the reflex pain outside of the abdomen—as pain in the shoulders from upper abdominal lesions and pain in the penis, testicles and inner thighs in lower abdominal troubles. He also pointed out that there may be tympanic sounds where dullness would be expected, as over the liver in perforations of the intestinal canal and over the cecum in retrocecal abscess in appendicitis.

Dr. Morse gave a lecture on two very common and troublesome fractures illustrated with lantern slides; viz., Colles' fracture and fracture of the neck of the femur. He stressed the importance of securing and maintaining perfect position of the broken bones and the impossibility of doing so without an anesthetic. In Colles' fracture this can be accomplished very nicely by the hypodermic injection of a 1 per cent solution of novocaine, at the seat of the fracture, up to an ounce or so.

Miss Anna W. Gutschke was introduced and told of her work as public health nurse in Wright county. Accompanied by Miss Hackman, Miss Gutschke has examined most of the school children and has found many cases of diseased tonsils among the poor who are unable to pay for treatment. She asked the cooperation of the members in treating and operating on a few of the more needy cases without charge. Every member present promised to cooperate and Miss Gutschke was encouraged to arrange for a tonsil clinic at Mountain Grove in the near future.

The next meeting will be held at Ava in August.
A. C. AMES, M.D., Secretary.

WOMAN'S AUXILIARY

ORGANIZED COUNTIES AND PRESIDENTS

COUNTY	PRESIDENT AND ADDRESS
Bates.....	Mrs. C. W. Luter, Butler
Boone.....	Mrs. E. D. Baskett, Columbia
Buchanan.....	Mrs. H. W. Carle, St. Joseph
Cass.....	Mrs. H. A. Brierly, Peculiar
Cape Girardeau.....	Mrs. N. F. Chostner, Cape Girardeau
Clay.....	Mrs. O. S. Wilfley, Excelsior Springs
Cole.....	Mrs. Stanley Howard, Jefferson City
Gentry.....	Mrs. W. T. Martin, Albany
Greene.....	Mrs. J. P. McCann, Springfield
Jackson.....	Mrs. Ralph Holbrook, Kansas City
Jasper.....	Mrs. U. G. Hoshaw, Joplin
Johnson.....	Mrs. H. F. Parker, Warrensburg
Lafayette.....	Mrs. E. S. Johnston, Concordia
Linn.....	Mrs. O. Putnam, Marcelline
Livingston.....	Mrs. Reuben Barney, Chillicothe
Randolph-Monroe.....	Mrs. Jesse Maddox, Moberly
Saline.....	Mrs. L. S. James, Blackburn
St. Louis City.....	Mrs. Francis Reder, St. Louis
Vernon-Cedar.....	Mrs. T. B. Todd, Nevada

CLAY COUNTY AUXILIARY

The Woman's Auxiliary to the Clay County Medical Society met with the members of the Medical Society at dinner Thursday evening, April 28, 1932, in the Jack-O-Lantern Cafe, Liberty. Immediately following the dinner the regular meeting was held at the home of Mrs. W. H. Goodson.

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E. J. GOODWIN, M.D., Editor
1023 Missouri Building, St. Louis, Mo.
Telephone, Jefferson 5261.

PUBLICATION COMMITTEE { J. C. B. DAVIS, M.D., Chairman
G. WILSE ROBINSON, M.D.
M. A. BLISS, M.D.

ORGANIZED MEDICINE AND ITS DEBT TO THE COMMUNITY *

PRESIDENT'S ADDRESS

J. F. HARRISON, M.D.
MEXICO, MO.

We are living in an age of rapid change and advancement. Within the life span of men now living, the science and art of medicine have developed more than in all previous time. Changes both in our profession and in the mode of living have brought about conditions that can be met only by intelligent cooperation between organized medicine and the public. This is apparent to all who have read medical journals and lay publications in recent years.

It is said that we as physicians are essentially individualists. Physicians in their private duties are ministering to their individual patients and should be individualistic. This is true by reason of the personal nature of the service they give. We as individuals have been too busy with professional affairs, however, to devote the necessary effort to impress upon our lay friends our purpose and desire to participate in all movements that are intended to promote public health and welfare. Preventive medicine, the cost of medical care, and allied subjects, are receiving more space in newspapers and lay magazines and are being discussed more in private conversation than ever before.

Observation through contact with medical organizations has convinced me that we as a profession have so busied ourselves with the purely curative part of our work and have been so absorbed in keeping step with the phenomenal progress made in medicine that we have neglected public contact and the instruction that should ema-

nate from us as a medical organization. It is manifest that we are more relied upon and accepted by the federal and state governments, railroads and old line life insurance companies and large industrial corporations than by the public. In other words, our profession is better sold to those who have had special reason to investigate than it is to the general public.

It is an accepted truth that public health is a nation's greatest asset. It follows naturally that the degree to which it is maintained is an index to a nation's civilization, for the rise and fall of a civilization is determined by the health of the people forming it. This is proved in the history of the Middle Ages, when numerous destructive scourges desolated Europe. Intelligent attacks on disease were unknown until the work of Pasteur, Kock, Lister and others revealed the causes of disease and developed methods to subdue it.

The County Society is the basic unit of medical organization. It is obvious that it is the duty as well as the privilege of individual physicians to join their local medical society. Individual members of county societies, after contending in their respective groups for their personal opinions, should submit to majority rule and not refuse to cooperate because their individual opinion has not prevailed. If the public looks to organized medicine for leadership and finds us wrangling and divided, they will not be impressed with our ability to lead. The proper relation of the practicing physician and the County Medical Society to the public is that of close and intimate counsellor in all matters pertaining to health, and voluntary guide in all public health movements. Through movements that we have set in motion the public has become health conscious. As in matters of court procedure and legislation we as a people look to the legal profession for guidance, so in

* Delivered before the 75th Annual Meeting of the Missouri State Medical Association, Jefferson City, May 23-26, 1932.

matters of public health the public instinctively turns to us for leadership because of our special knowledge and training.

As a profession we have broadcast the startling developments in the field of preventive and curative medicine. When people are told that diphtheria is a preventable disease and few children die of it when properly treated; that pulmonary tuberculosis, treated early, is seldom fatal; that typhoid and malarial fever can be prevented; that even cancer, dealt with in its incipency, is curable; that a long list of other diseases have been brought under control by prophylactic and sanitary measures, they naturally become interested in health activities. Due to information which emanates from our profession, it is evident that a health-conscious public is looking to our profession to take the lead in putting into effect such measures as will make these matters more of a reality. We should assume and maintain this leadership in all health activities. Dr. W. H. Ross, a former president of the New York Medical Association has said: "The steadily increasing participation in the public health field by the laity abundantly represented by organizations and foundations has public support. Public opinion is steadily increasing its insistence on efforts to solve the unsolved health and medical problems. Medicine has come to have a public character; knowledge of what can be had in health service is rapidly expanding; the broadcasting of unsolved health and medical problems is increasing. The social trend of the time irresistibly insists on a better health service. It is reflected in public welfare laws, old-age pensions, etc. The medical profession is confronted by a new situation. That this has brought about economic disturbances in medicine, there can be no question. It is not wise on our part to resist the modern trend of public opinion. Rather we should by intelligent cooperation lead in all matters pertaining to public health questions."

There are two outstanding criticisms of medicine. (1) It costs too much. (2) There is not sufficient use of preventive medicine. Unfortunately there is confusion as to the cost of medical care and the cost of medical service. We, as individual practitioners participate only in the latter. Obviously the cost of medical care includes not only medical service, but hospital and laboratory fees, special nurses, expensive drugs, and many other things properly classed as luxuries.

When the cost of medical care and medical service are analyzed and the comparatively small per cent actually paid for medical service is set apart from the total sum, the profession is absolved from the charge of profiteering.

A writer in a popular magazine, quoting figures purporting to come from the committee on the cost of medical care, states that the entire national health bill is about \$3,000,000,000. This is, he estimates, about \$25.00 for each individual, or about \$100.00 for an average family. This writer makes the further observation that the cost is less than is annually paid by the average family for gasoline and probably less than is paid for illicit beverages.

There is no basis for the charge that doctors are overpaid. In fact, it has been charged, and not without reason, that we are actually aiding in pauperizing many who are not deserving of free service. The total value of this free service is said to amount to \$365,000,000 a year. "Why physicians practice charity toward those unfortunate people who belong to the whole community," one commentator has said, "is beyond the understanding of anyone except the doctors who have been accustomed to it and the people who have been taking it for granted." Another has said "This is one of the archaic traditions which we have inherited from saddlebag medicine." There is justification for the charge that the costs of medical service and medical care are not equitably distributed.

Some advance figures coming from the Federal Committee on the cost of medical care—a committee which has not completed its five-year study—indicate that too large a part of the cost falls on those having an annual income of less than \$3,000. In a group of 4,560 families contributing to the statistics it appears 75 per cent of the total cost was paid by one third of the number and that their income per family ranged from \$2,000 to \$3,000.

Under existing conditions a pauper, or anyone who cares to pose as one, and can convince the authorities that he is such, can obtain high-grade treatment for nothing. Yet no citizen should be allowed to believe that he is entitled to service at public expense for which he is able to pay. The wage earner, or the man of moderate income, who is endeavoring to meet his legitimate expense is entitled to much consideration from our profession. The equitable

distribution of medical cost, therefore, is an economic problem which the profession and public by patient cooperation should be able to solve.

As to the second charge, we must agree that if preventive medicine were practiced to the full extent of present-day knowledge, there would result not only a stupendous financial saving to national, state and municipal governments but also a saving of many lives and much needless suffering. The prevalence of preventable diseases is a matter of deep concern. Dr. Ray Lyman Wilbur is authority for the following figures: There are 700,000 people in the United States sick with tuberculosis. There are 100,000 cases of smallpox, with 30,000 deaths each year. In the year 1928 there were 26,000 cases of typhoid fever with 5,700 deaths. There were 89,000 cases of diphtheria in the same year and 8,300 deaths, mostly little children. With the above should be included the well-known prevalence of venereal diseases and the tragedy of the large number of children with congenital syphilis.

As yet little has been done to prevent the continual congestion of almshouses, hospitals for insane and criminal institutions by the offspring of mental defectives and criminals. This high toll taken by disease cannot be prevented by the doctors alone. The knowledge is available but can be made highly effective only by the combined efforts of the public, the doctors, and the local and state health departments. It is discouraging when measures of public interest are urged, to find the public failing entirely to grasp the altruistic spirit that has prompted the movement and inclined to feel that the doctors are asking for special favors.

These matters can be met only by sane cooperation on the part of the state, the public and the medical profession. They are social, economic and humanitarian in scope and demand the best in all of us. Matters of such grave moment should not be left to fanatical and ill-advised persons.

Preventive medicine, if properly handled, should meet part of the doctor's economic problem. The public should understand that all preventive measures can be applied by local doctors, and that they have been taught and trained to cooperate with state and municipal health boards. There is no reason to call in outside aid in such matters as examination of school children, child hygiene, industrial hygiene, prenatal care,

maternity and immunization against disease. This work should all be done by the local medical staffs.

It naturally follows that those who do this work should be paid for it. It is obviously a more valuable service to prevent than to cure disease, and we, with the approval and aid of lay organizations, should make the work more effective. There are a number of ways that we, as citizens as well as physicians, may materially assist in public health and welfare work. And we are citizens, for as Dr. Motley, a former president of the Virginia Association, says: "To be a good doctor one must be a good citizen. The privilege of citizenship carries with it many responsibilities which lead us far afield from our professional activities. The medical practitioner, because of his public position, will be called upon for civic leadership. We must not side-step this challenge."

It is becoming more necessary for members of the medical profession to become members of school boards and municipal, state and national legislative bodies. There is a place for us in all these fields where special knowledge can be helpful in dealing with public health and welfare legislation. If someone feels that the political field is not for the doctor, that political matters are controlled by devious and questionable methods, the answer is, no citizen should be above participating in matters that involve legislation and the settling of political questions. Our nation is founded on the great principle of self-government maintained by majority rule. The only way therefore, that matters can be improved is for the best types of citizens to accept active leadership rather than to stand aloof and offer criticism. We were all taught in our student days that "Medicine is a jealous mistress and permits no competitor." Broadly speaking this is true. It does not, however, prevent our participating in public affairs when the opportunity is offered us to assist in a better and more effective application of accumulated knowledge to questions of public welfare.

In this day of good roads, automobiles, radios and daily papers, health information, as is all other information, is distributed with amazing speed. Millions can now listen where only a few hundred formerly constituted an audience. These increased facilities increase our responsibility. It is to our credit that many good radio programs on health questions are now on the air. The JOURNAL OF THE MISSOURI STATE ASSOCIA-

TION, as well as *The Journal of the American Medical Association*, are devoting more and more space to health information. Health articles are often reprinted in lay publications because of their general information and public interest.

Lay contact is a field, too, in which The State and National Women's Auxiliaries are doing valuable service. This no doubt will increase. There is a golden opportunity because of their close and intimate relation to medicine and to community work. Their membership gives them easy access to parent-teachers associations, public welfare organizations, etc.

The Andrew Walker McAlester Foundation, which has been approved by, and is to function under the joint control of, the Missouri State Medical Association and the University of Missouri, has for its sole purpose the spread of health information. This is an agency from which much is expected. In recent months an effort has been made to increase the interest of the public in health questions by arranging public meetings to be held on the same day as county or district medical meetings. Usually the same doctors serve on both programs. Experience thus far has shown that the most receptive audiences are found in high schools and colleges. The cooperation of school boards, school superintendents and the public has been most gratifying and again emphasizes that the public is health-conscious.

There are affairs in the state that need improvement and that could be approached with a more rational program if guided by knowledge that we should supply. An outstanding example is our eleemosynary institutions. No criticism is due those now administering this service for they are doing well considering the handicaps under which they labor. Only this year insane persons have been returned to counties from which they came because the counties did not have funds to pay their keep and the State Hospitals had no means of obtaining funds except from the county courts of the counties from which the patients came. It is not now possible properly to classify and treat the insane on account of the system under which these hospitals operate. Each year many purely senile cases are admitted to the state hospitals for insane because there are few county infirmaries equipped to take care of them. That these unfortunate old people are kindly and humanly cared for in the hospitals for insane is true, but it is unjust to those who have

charge of these hospitals to impose upon them the responsibility for their care.

The senile should be segregated from the insane and cared for in institutions specially provided for them. To do this would not seriously increase our economic problems even in times like these. It is not right that indigent old people, sound in mind but broken in body, should have to die in a hospital for insane and taint the life history of all who follow after them in the family line, yet here in Missouri this very thing is happening every day. Let us keep the hospitals for insane for the insane, and let us provide other institutions for the indigent aged.

The public is willing to do the right thing in meeting its obligations and anxious to follow enlightened leadership. Our legislative friends, along with the public, need to be taught that in the practice of medicine there are certain fundamentals, knowledge of which are essential to every man who would attempt to treat the sick. These include a well-grounded knowledge of the basic sciences, as well as a thorough knowledge of anatomy, physiology and pathology. Before being admitted to practice, every man who seeks the privilege of ministering to those who are ill and infirm should be required to pass a rigid examination in these fundamentals. In this way the charlatans and quacks can be eliminated. I say, therefore, that statutory enactments requiring high standards of special knowledge of physicians are due the public from the State, and that these enactments will solve one of the most vexing problems of the day.

In order to coordinate and direct the various health activities public relations committees have been created by some medical organizations. This seems a rational thing to do. Such a committee would serve as a ready contact between the medical society and all other agencies with which it may be advisable for the society to confer. Such a committee, sometimes called a committee on lay projects, should not be confused with a public health committee.

In conclusion, if organized medicine could realize the tremendous force it is capable of exercising for good, and would present an aggressive, united front and deal with questions of public health and allied subjects in a vigorous manner, we would merit increased public support and undoubtedly would receive it. Fifty years ago, Oliver Wendell Holmes said: "All that the medical profession needs to do to obtain confidence of the public is to deserve it."

THE TONSIL IN TUBERCULOSIS

V. V. WOOD, M.D.

ST. LOUIS

The relation of the tonsil to tuberculosis may be considered from two important angles: first, tuberculosis of the tonsil per se; second, action of an infected tonsil in lowering the resistance of a tuberculous patient by dissemination of bacteria or toxins.

Tuberculosis of the Tonsil.—Tuberculosis of the tonsil is either a rare condition or is seldom recognized clinically. This may be explained by the assumption that a tuberculous tonsil does not often ulcerate and produce visible lesions as does the larynx or the pharynx in a similar condition. It is, therefore, conceivable that many inflamed and enlarged tonsils, usually regarded as merely harbors for pyogenic organisms, may upon section and pathologic examination show actual tuberculosis unsuspected prior to removal. Tuberculosis of the tonsil is not often listed as the heading of a chapter in the index of a textbook on otolaryngology; tuberculosis of the pharynx, however, is a definite clinical entity. It is recognizable clinically, is of considerable importance and is listed as a heading of a chapter or of one or more paragraphs in most textbooks on otolaryngology. Tuberculous lesions and ulcers of the pharynx and larynx are often observed, but the opinion prevails that they are seldom if ever primary but are always or almost always secondary to pulmonary tuberculosis. I have never seen such a condition in a patient when a good internist could not promptly make a clinical diagnosis of pulmonary tuberculosis.

Dr. Walsh, the pathologist at St. Luke's Hospital, St. Louis, has told me that he could recall only one instance since he has been associated with that institution in which he has found an undoubted tuberculosis of the tonsil. After casually going over all my available records I also can say that I found only one instance of tuberculosis of the tonsil being confirmed positively by a pathologic report.

The routine section and pathological examination of all tonsils removed is now being instituted in Class A hospitals and as a result we may have more trustworthy and complete data upon the incidence of tuberculosis of the tonsil in the near future.

Even microscopically the diagnosis of tuberculosis of the tonsil might be open to question except in the hands of an excellent pathologist. A few tubercle bacilli found in the crypts of a tonsil even in a known tuberculous individual should not establish a diagnosis of tuberculosis of the tonsil. Real tubercles, giant cells, or other indisputable evidence of tuberculosis of

the tonsillar tissue are necessary to establish this diagnosis.

Dr. Harry A. Barnes¹ makes this statement: "Tuberculosis of the tonsil may be primary or secondary. The first is latent in character, producing no surface lesions and no local symptoms other than those of hypertrophy. The latent tuberculous tonsil is by no means always large, however. It is therefore difficult if not impossible to make a diagnosis of the condition except in those cases in which tuberculosis of the cervical glands is present, and then only by inference. The lesions are usually found accidentally after removal of the tonsils."

W. V. Mullin² states, "tubercles in the tonsils are not recognizable clinically and are not clinically important." He believes this condition should be dismissed from our minds and regarded as a pathologic curiosity, especially from the standpoint of any practical importance. I heartily agree with this statement insofar as Missouri is concerned.

P. B. MacCready and S. J. Crowe³ state, "tuberculosis of the tonsils and adenoids never is recognizable from the gross appearance before operation." They believe that even when the lesion is discovered microscopically it is not advisable to alarm the family and brand the patient as tuberculous, since the majority of such patients never will have clinical symptoms of the disease.

Lockard⁴ rarely refers to tuberculosis of the tonsil as active but almost invariably as latent. Practically all of his references on the subject or extracts from the literature speak in the same vein.

In 1921, C. V. Weller⁵ reported upon his study of the histopathology of tuberculosis of the tonsil. The tonsils studied were from 8697 cases. Microscopic sections were made of both faucial tonsils in all cases and of the pharyngeal tonsil in about one fourth of them. The incidence of active tonsillar tuberculosis in the series was about 2.35 per cent (204 positives out of 8697). It was slightly more common in females than males, regardless of age. He divided tonsillar tuberculosis into three types, (a) focal cryptic infections, (b) ulcerative lupus-like lesions, and (c) diffuse miliary tubercle. The first mentioned was the most common, being usually unilateral and involving one or more crypt areas but not usually affecting the follicles. He believes that many cases are primary.

H. Fielding Wilkinson,⁶ of the Mayo Foundation, reported in 1929 upon his microscopic study of ten thousand pairs of tonsils, with special reference to the presence of cartilage, bone, tuberculosis, and bodies suggestive of

actinomycosis. In this series of ten thousand cases he was unable to recognize a cryptal type but found fifty-two cases (0.52 per cent) of the diffuse type. He quotes from various authors on the incidence of tuberculosis of the tonsil in which the opinions vary between less than 1 per cent to as high as 8 per cent (most of these being about 1 per cent or under that figure). However, he believes that tuberculosis of the tonsil is on the decline, as is tuberculosis in general. He refers to Weller's group of 8697 cases collected between 1906 and 1919 in which the incidence was given as 2.35 per cent. He believes that any group taken between 1923 and 1927, as was his, would show a smaller percentage than a group taken in the previous decade.

Certain variations in the findings of different men might be explained geographically. The states of Arizona, New Mexico, and certain parts of Texas and Colorado, where tuberculous patients congregate and take refuge, would naturally show a higher incidence or percentage than the country at large. Therefore, a collection of all groups from all sections of the country is necessary before statistics of the incidence of tonsillar tuberculosis for the entire United States could be compiled.

Theoretically, the tonsil might be regarded as an important portal of entry for tubercle bacilli because when tuberculous cervical adenitis is observed so frequently, in the same chain of lymph nodes found enlarged during active pyogenic tonsillar infection, much strength is lent to this theory. More "fuel for the fire" is found in reflecting upon the frequency of lung infarcts and abscesses following tonsillectomies and acute tonsillar infections. The theory that lung abscess following tonsillectomy is usually due to aspiration is rapidly losing ground to the theory that it is more often caused by septic emboli finding their way to the lung via the cervical lymphatics, great veins, right side of the heart and pulmonary artery. At first glance, the statement that tuberculosis of the tonsil is rare would preclude the possibility that tuberculosis of the lung frequently finds its portal of entry through the tonsil. If it were a frequent occurrence then tuberculosis of the tonsil should be a common finding. Assuming that scrofula and cervical gland tuberculosis originate preeminently from pharyngeal foci, there is still lacking conclusive evidence that real tuberculous infection of the tonsil usually precedes or accompanies such manifestations of the disease, although W. V. Mullin believes that in tuberculous cervical adenitis the tonsils will be positive for tuberculosis in 50 per cent of the cases.

Many experienced observers hold that tuber-

cle bacilli can pass through the pharyngeal mucosa and pharyngeal lymphoid tissues without leaving a discernible lesion at their portal of entry. MacCallum⁷ in 1925, writing upon the "Modes of Infection" in tuberculosis states: "Rössle, Calmette, Ravenel, Orth, and others find a rapid general spread of such bacteria throughout the body lodging in lymphoid tissue everywhere and sometimes (Bartel) producing no visible lesions whatever. All argue that tubercle bacilli brought into contact with any mucosa are readily absorbed without leaving a destructive lesion to mark the place of entrance."

It is not my intention to burden one's patience with a tiresome resumé of the literature upon how tuberculosis is contracted. However, as far as I have been able to determine, the consensus of opinion is that there are two chief modes of contracting the disease, namely, by inhalation and by swallowing the bacilli in food (milk from infected cattle, etc.).

I have regarded tuberculosis (no matter where its manifestations were found) as primarily a lung disease contracted preeminently by inhalation. St. Louis City Hospital post-mortems upon city dwellers and especially upon lifelong St. Louisans always reveal an outstanding anthracosis. There is small doubt that this carbon enters the lung by direct inhalation, thus demonstrating the ease with which such inert substances may penetrate the surface epithelium of the alveoli and smaller bronchioles. Live tubercle bacilli should enter even more easily. MacCallum and others have mentioned anthracosis in the same manner. However, since going into the subject more deeply for this paper, my views have been broadened and I have been forced to consider other possible portals of entry of the tubercle bacillus.

EFFECT OF THE TONSILS IN LOWERING THE RESISTANCE OF A TUBERCULOUS PATIENT

It is a very reasonable supposition that infected tonsils often lower the resistance of a tuberculous patient and reduce his chances of regaining his health. Nevertheless, the warning should be issued that tonsillectomy is a very serious procedure in subjects with pulmonary tuberculosis. This holds true with any type of anesthesia employed. Ether should be warned against especially and gas is probably the anesthetic of choice. It appears certain that a gas-oxygen anesthesia is nonirritating to the lungs. However, even the slight shock of an operation under a local anesthetic can start a tuberculous patient on some such downward course as is often seen in pregnancy with tuberculosis. Assuming that the tuberculous pa-

tient's resistance would be improved greatly by the removal of the tonsils, it can be seen that a very delicate problem is involved as to whether or not to do so. The throat may become infected by tuberculous sputa and a tuberculous ulcer result. I have had an impression for some time that such patients do not heal well after throat surgery. I must admit that I have actually tried the experiment of tonsillectomy very infrequently in known tuberculous cases, but in those I have operated on I cannot recall having seen the hoped for beneficial result. Nevertheless, it is a point to be seriously considered in any individual case.

I have been unable to find any conclusive evidence in the literature that the seriousness of a tonsillectomy is affected to any great extent by the tonsil being tuberculous. I doubt if that circumstance adds anything to the danger of the operation. In other words, the operation is probably no more dangerous when the tonsil is actually tuberculous than when it merely contains pyogenic infection. Theoretically, it should make some difference but in my investigations of statistics no larger incidence of postoperative complications appears in one instance than in the other. To my mind, the question of chief importance is, has the individual upon whom tonsillectomy is being contemplated pulmonary tuberculosis in an active or potentially active form?

Naturally, the operation should be a better risk in early cases. The more advanced the tuberculosis the more serious is tonsillectomy. This is a sad conclusion because a patient with an advanced tuberculosis should have every extra load possible lifted from him.

Dr. C. M. Sykes⁸ feels very strongly about the benefit and even the urgency of nasal surgery in tuberculous patients when a chronic nasal sinusitis is also present. He argues that if nasal sinusitis can produce chronic lower respiratory tract infections, which are often difficult to differentiate clinically from pulmonary tuberculosis, then it should certainly make a known tuberculosis worse. He operates on tuberculous patients without hesitation in such instances, if they will stand operation at all, and reports good results.

Paradoxical as it may seem, I have acquired the idea that tuberculous patients stand nasal surgery better than they do tonsillectomy. My experience may have been rather limited as compared with that of Spencer or other men living in localities where tuberculous patients congregate, but my practice in Missouri has consistently led to this conclusion. I have removed nasal polypi, have done rather extensive surgery on the ethmoids, sphenoids and antra in known tuberculous patients, with no

noticeable untoward effects and in several instances with evident and unquestioned benefit. Especially has this been true in patients suffering from hay-fever and upper respiratory tract allergies. Asthma cases are not often benefited permanently by nasal surgery, in my experience, whether or not tuberculosis is also present. However, my experience with tonsillectomy in tuberculosis has not been encouraging and I feel dubious about its advisability except in carefully selected cases.

An early draft of this paper was read before the Trudean Club of St. Louis, February 6, 1930. On this occasion Dr. J. F. Bredeck, St. Louis, in his discussion gave meticulously prepared and definite statistics on the results of tonsillectomy in tuberculous patients, his data having been compiled from the records of several St. Louis institutions for the tuberculous and his personal experiences while connected therewith. I was much impressed by the fact that his figures corroborated my statements about the relation between the results obtained by tonsillectomy and by nasal surgery. An abstract of his discussion follows:

The records showed that during his term of service sixteen tonsillectomies were done on tuberculous patients whom he did not see personally. Twelve of these cases, or 75 per cent, have since died. Six tonsillectomies were done in a series of two hundred cases under his personal supervision. One operation was followed by an ulcerative lesion of one tonsillar fossa, which still is unhealed. Two of the six patients developed a daily temperature of 100 plus immediately after the operation, although they had been running normal temperatures for some time previously. In one of these two, the temperature had continued for two months and in the other for four months when last observed.

In an oral communication with Dr. Bredeck later I learned that the patient who had developed an ulcerative lesion of one tonsillar fossa continued on the downward path until he succumbed to a tuberculous cecum. One of the two who had developed a temperature after operation continued on her decline until a tuberculous involvement of the fallopian tubes occurred, which was superseded quickly by a fatal tuberculous peritonitis. Therefore two of the six cases under his personal supervision, or 33 1/3 per cent, are now dead. Of the entire twenty-two cases, fourteen have died, which is 63.5 per cent covering a period of eleven years. He did not have figures on how long after operation each death occurred.

No case under his personal supervision developed any acute exacerbation or other untoward result following nasal surgery but he did not have figures upon how many nasal operations had been done.

Of course, the above series is too small to prove a great deal. However, it lends some

weight to an opinion that tuberculous patients stand nasal surgery better than they do tonsillectomy.

218 Beaumont Medical Building.

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URETERAL STONE*

JOHN R. CORYELL, M.D.

KANSAS CITY, MO.

Etiology.—The study of urinary calculi is as old as the history of medicine and the large number of theories that have been advanced is but an indication of the uncertainty of their cause. These theories have changed from time to time, corresponding to whatever happened to be in vogue at that particular moment. Thus in the days of the alchemist they were ascribed to chemical changes. In the early nineties of the last century Ebstein and Nicolaier produced stones in the urinary tract of animals by feeding them oxamide, a derivative of oxalic acid. More recently Keyser did the same thing at the Mayo Clinic. In view of the theory that the excessive eating of tomatoes has apparently caused stones in certain individuals, it was thought for many years they were produced by an excess of normal constituents of the diet; but no one has produced urinary calculi experimentally by feeding in excess normal constituents of an animal's diet. After Pasteur's work, microorganisms were thought to be the sole causative agent and in the past decade vitamin deficiency and disturbances of the internal secretions have been advanced as etiologic factors (Rost). In recent years, stones have formed in dog's kidneys following the production of an artificial infection in a tooth. Although focal infection has not been conclusively proved to be the sole cause of urinary stones, it seems to be a very important factor. Within the past five years many pa-

tients with urinary stone have shown, upon careful examination, a definite infection of the teeth or tonsils or both. In one series of 1001 cases this was about 80 per cent. On the other hand, this same series revealed that about 20 per cent had healthy teeth and tonsils. This, however, does not rule out a focal infection elsewhere, such as in the gallbladder, prostate, seminal vesicles, etc. Where exhaustive diagnostic methods have been used the large majority of cases show the presence of urinary infection plus a lack of normal drainage due to a pathological condition of the excretory upper urinary tract, thereby causing stasis and a nucleus for stone formation. As a rule, except in cases of silent stone in the kidney parenchyma, infection is present and plays a definite role. Therefore, the establishment of drainage and the removal of all foci of infection are of the utmost importance in the treatment and in preventing recurrences.

Stricture of the ureter has been advanced as a cause. Ureteral stricture is more common in women than in men on account of pelvic inflammatory conditions being more frequent in women; but in the series of 1001 cases of ureteral stone reported by Bumpus and Thompson 70 per cent were in men. Furthermore, their recurrence is about as common in the other ureter as in the one from which stone was previously removed.

Symptoms.—In order of frequency of occurrence the symptoms are: (1) Pain which is present in from 70 to 80 per cent of the cases; (2) frequency of urination in about 50 per cent; (3) hematuria in 30 per cent, and (4) anuria in 2 or 3 per cent.

Pain is due to distention by urine and is the most common symptom but does not occur in all cases. In fact, it is absent in from 20 to 30 per cent. Its degree of severity and its location are variable. When present, it is in the kidney region and radiates toward the bladder in about two thirds of the cases. Pain radiating to the inner surfaces of the thighs or external genitals is much less frequent than was formerly taught in the textbooks. Occasionally it is reversed; that is, when the stone is in the lower part of the ureter pain radiates from the bladder to the kidney; and I have seen men who had painful ejaculations when stone was in the lower ureter. In three cases the stone could be palpated per rectum. Reversed referred pain occurs in about 3 per cent of the cases. In some instances it is referred to the other kidney (8 cases). Pain is localized in the lower right quadrant with little or no suggestion of kidney colic in about 1 or

* Read before the Nodaway County Medical Society, April 8, 1932.

2 per cent of the cases. In these cases appendectomy was often done without relief of symptoms, but a rapid recovery followed the subsequent removal of a ureteral stone; therefore, after appendectomy if symptoms persist ureteral stone should be excluded. Caulk states that before the days of the cystoscope at least 25 per cent of the appendectomies were done when the lesion was in the ureter. Pain is rarely confined to the epigastrium, the incidence being between 1 and 2 per cent. In such cases a diagnosis of gallstones or inflammation of the gallbladder is apt to be made. In less than 1 per cent peptic ulcer has been diagnosed when removal of a ureteral stone relieved the symptoms of epigastric pain accompanied by nausea and vomiting.

Frequency of urination is the next symptom in order of occurrence. During the attack it is present in about 50 per cent of the cases. Many patients give a history of frequency and dysuria, which is usually slight, associated with a vague abdominal pain without a history of colic. So it would seem that the association of a vague pain in the abdomen accompanied by frequent micturition, with or without a gastrointestinal disturbance, warrants a careful roentgen ray examination of the urinary tract.

Hematuria, the third symptom in order of occurrence, is noted by the patient in about 30 per cent of the cases; and by the physician, microscopically, but slightly more often.

Anuria, the most alarming symptom, is fortunately comparatively rare. Its incidence is about 2 or 3 per cent. It may be reflex in type inasmuch as obstruction may not be demonstrable in the opposite ureter. Reflex anuria rarely lasts more than 24 hours. Hence, if of longer duration, it is probably due to obstruction of both sides. As soon as obstruction is removed the urea value of the blood rapidly returns to normal. I have seen patients in whom anuria had lasted for from 36 hours to 8 days with the blood urea returning to normal in from 48 hours to 8 days after removal of the obstruction.

Diagnosis.—As has been pointed out, pain is present in from 70 to 80 per cent of the cases; frequency in about 50 per cent; hematuria in about 30 per cent, anuria in 2 or 3 per cent. These symptoms may present themselves singly or in different combinations and in different degrees of severity. But no one symptom nor a combination of them is pathognomonic of stone. Even the passage of gravel although suggestive is not a positive indication of calculus. We often see a deposition of salts on neoplasms in the renal pelvis or bladder. More-

over, a differential diagnosis from appendicitis, gallbladder disease and peptic ulcer cannot always be made from the subjective symptoms alone.

By means of the roentgen ray and ureteral catheter, we are enabled to diagnose almost every case of ureteral stone, except in young children (stone was found at autopsy in a fetus of 6 months) and in urates. Fortunately, the percentage of stones not demonstrable by the roentgen ray is small. The ones not thus revealed because of lack of opacity and according to the atomic weight of their constituents are, cystin, pure uric acid and urates, xanthin, fibrin, and recently formed stones which lack density. The opacity is greatest in calcium carbonate, next in calcium oxalate, then calcium phosphate and magnesium phosphate. Fortunately, from 90 to 95 per cent are revealed by the roentgen ray, but without its aid and the ureteral catheter it would be difficult and at times impossible to differentiate between a ureteral stone, a phlebolith and a calcified gland.

The presence of a ureteral stone does not necessarily mean an obstruction to the passage of a ureteral catheter. This is true not only in cases of small stones but often a catheter may be passed without force beyond a fairly large one. On the other hand, a comparatively small stone may cause a definite and complete obstruction. A word regarding the wax-tipped catheter: in something less than 20 per cent of the cases a grating sensation is transmitted along the catheter to the finger tips. When absent it means nothing. In other words, it is of confirmatory value only.

The chief diagnostic point is when the roentgen ray shadow corresponds to the urographic medium; that is, a roentgen ray catheter or a solution such as thorium nitrate, sodium bromide, sodium iodide, etc., or the intravenously administered uroselectan, abrodil, skiodan, etc. To strengthen the diagnosis it is well to make stereoscopic plates.

The incidence of location of ureteral stone is about 50 per cent in the lower third and 50 per cent in the upper two thirds of the ureter. Obstruction from stone in the lower ureter causing ureteral and renal injury so severe that nephro-ureterectomy is required, is probably less than 5 per cent of all cases of ureteral stone. But it is important to make a careful study of the blood and urine and of the kidney function in all cases. Otherwise, the mortality of manipulative treatment will be increased; and cases of suppurative pyelonephritis with multiple cortical abscesses will not be given

their chance of recovery afforded by an open operation.

Treatment.—This may be operative or manipulative. The technic of the manipulative treatment is merely that of cystoscopy and ureteral catheterization. During the last twenty-five years many urologists have removed stones by this method. The advantages of such treatment are obvious. But at the outset, I would like to emphasize a point brought out by Braasch, namely; that one should carefully guard against a severe reaction and acute pyelonephritis attending or immediately following manipulation. Before such treatment is undertaken, it is advisable to get permission to do an open operation in case manipulation fails; and in the event of calculus anuria, if the indwelling catheter fails to relieve the alarming symptoms surgical intervention should not be delayed. Oftentimes, however, in calculus anuria the fixed ureteral catheter combined with forced fluids and intravenous saline solution, is followed by very marked improvement.

In the manipulative treatment, patience, gentleness, careful observation and rigid asepsis are imperative. The question as to whether to attempt removal by manipulation or do an open operation at once is answered by the fact that about 90 per cent of ureteral stones can be removed by means of the cystoscope and ureteral catheter. One cannot over-emphasize the importance of making repeated kidney functional tests and roentgen ray studies. Broadly speaking, if renal function remains normal, if infection is absent or slight, if drainage is efficient, and if the stone shows a tendency to descend, one is justified in repeating the manipulative treatment. As to the type of catheter, I would strongly urge the use of the roentgen ray catheter because it is more durable, more flexible, produces less discomfort, and with it, a roentgen ray check-up may be made at the same time. Numbers 5, 6, 7, and 8 are the sizes most frequently used. As a routine, I pass the two largest catheters the ureter will admit and employ a continuous irrigation of acriflavine in normal salt solution in strengths of from 1 to 10,000 up to 1 to 1,000. Most striking results are obtained in renal and ureteral colic, in pyelitis, pyelonephritis and so-called idiopathic hematuria, as well as in cases of stasis and infection. No set of rules can be laid down for handling these cases. Each individual case should be carefully worked out as to urine, blood and roentgen ray examination. Of equal importance are gentleness of manipulation, rigid

asepsis and patience, which I wish to emphasize again. Various instruments have been devised for intra-ureteral work; instruments for cutting the meatus, for crushing the stone and for removing it intact by traction. But such instruments should not be used unless absolutely necessary. Cutting or fulgurating the ureteral meatus was at one time a rather common procedure but is now rarely done in view of the high percentage of small and medium-sized stones which are passed under the manipulative treatment. It was long thought to be a definite sphincter, but in reality it is a single flap affair, composed of elastic tissue, connective tissue, smooth muscle fibre and mucous membrane, and we know that cutting it encourages an ascending infection. I believe that, in most cases, by slow dilatation of the ureter with increasingly large ureteral catheters and bougies and, in certain cases where the stone is large, leaving the catheters in the ureter as long as from five to seven days, better results are obtained. When possible, it is advisable to pass more than one catheter at the same time, thus enabling a continuous irrigation with a mild antiseptic solution. One should constantly guard against trauma and infection. These are minimized by gradual dilatation and gentle shifting of the axis of the stone. The results thus obtained are better, pain and trauma are certainly less and supuration is far less frequent. Moreover, in many cases, one treatment is all that is required. In gradual dilatation the exact mechanism is not clear but, as Beer explains it, "perhaps the edema which holds the stone is allowed to subside, perhaps the traction on and dislocation of the stone are caused by withdrawal of the catheter, or perhaps dilatation of the ureter is the chief factor." As I have said, it frequently happens that the stone is passed after one treatment and as a rule there is little pain, and sometimes none. Usually, benefit is immediate and permanent and infection clears up after removal of the stone. In passing, I might reiterate that whenever possible, two or even three catheters should be passed at the same time. In some instances, when the stone is fairly large, the catheters serve to push it back into the renal pelvis thereby securing normal drainage, cessation of pain and dilatation of the ureter, which will later aid in passing the stone into the bladder. The catheter, or catheters, may be left in for a week if thought advisable. In all cases, I believe subsequent reaction is minimized by leaving them in the ureter for at least six or eight hours on account of the edema, the ureteritis and peri-

ureteritis. Moreover, ascending infection is avoided or lessened because the renal pelvis is drained and lavaged. The irrigation also prevents blocking of the catheter with blood, pus or mucus.

In an uncertain and variable percentage of cases, depending somewhat upon the skill or lack of skill of the operator, surgical removal is necessary after manipulation has failed; but, as I have said, about 90 per cent of ureteral stones may be thus removed.

There are definite contraindications to this treatment of choice. The urethra must be permeable and without an acute or chronic infection or discharge. The ureteral stone must be not more than one and one half or two centimeters in diameter. When the urine is badly infected and when there is a severe pyelonephritis, it is a waste of time and jeopardizes the patient's chance of recovery not to do an open operation at once. Such conditions are present in about 10 per cent of the cases. Moreover, the ureteral catheter should be removed immediately for severe pain and in case of chill or high temperature. There is no doubt that many of the cases reported in which crushing or rapid removal by special instruments so traumatize the ureter that a suppurative nephritis ensues within 24 hours. I believe much of this would be avoided if gradual dilatation were done with catheters and soft bougies, or if a catheter is passed beyond a large stone and allowed to remain for as long as five days, the results are better. There is less pain and trauma incident to the manipulative tilting of the stone's axis and a lessened likelihood or entire absence of infection.

Patients with a previous nephrectomy who have a stone in the remaining ureter complicated by anuria, may often be spared an open operation by means of a ureteral catheter left in place. While draining the renal pelvis it also dilates the ureter. Of course, at the same time liquids should be forced by mouth and given intravenously with the hope and likelihood that the blood urea will return to normal. In all cases urinary antiseptics should be given by mouth.

As to recurrence, it is quite certain that many cases so classified, including some of my own, are those in which fragments are left, or in cases of multiple stones some are left during the open operation. If proper precautions are taken, there should be less than 5 per cent recurrences, and these occur in about equal proportion in the same as in the unaffected side. To prevent recurrence, the first step after removal of ureteral stone is to lavage the renal

pelvis and ureter through the catheter in an attempt to remove all gravel and tiny fragments which may act as a nucleus for new stones. Within a week or ten days, in certain selected cases, the ureter should be dilated and the lavage repeated and a check-up made with another roentgen ray study. Using these precautions, together with those to be enumerated later, the likelihood of recurrence is very small. Inasmuch as the etiology is not definitely established, it seems reasonable to assume that their recurrence would be minimized by drinking large amounts of water, preferably distilled. A lessened fluid intake would certainly be accompanied by concentrated urine and this would increase the likelihood of a deposition of urinary salts. Finally, in view of animal experimentation and of clinical evidence at hand, it is of great importance to remove all foci of infection. This should be done while the patient is under observation.

1400 Professional Building.

GONOCOCCAL PYELONEPHRITIS

JENNER G. JONES, M.D.

ST. JOSEPH, MO.

The gonococcus does not often invade the upper urinary tract. Gonococcal cystitis is rare. Pyelonephritis of gonococcal origin is extremely rare. Campbell¹ says the organism has been identified by culture in less than a dozen cases. In a recent review of the literature by Parmenter and others² only 164 cases were mentioned and of these 104 cases were discarded as "unproved" because no laboratory work was done. The remaining cases were grouped as follows: 28 "possible," 27 "probable" and 4 "proved." They add 4 cases to the "proved" list. We are reporting this case which is interesting from the standpoint of diagnosis and treatment.

REPORT OF CASE

J. H., white man, laborer, aged 23, single, admitted to Missouri Methodist Hospital, Feb. 12, 1931.

Chief Complaint.—Pain in right lumbar region occasionally radiating to right groin, indigestion, unable to work; 16 months' duration.

Family History.—Father living and well. Mother died of appendicitis, aged 32. Two sisters living and well. One sister died of measles at age 3. One sister died of accidental burns. One brother died from pulmonary tuberculosis one year ago at age 21. No history of cancer or diabetes in the family.

Past History.—Measles, smallpox, chicken pox, pertussis, mumps during childhood. In the fall of

1. Campbell, M. F.: *Infections of the Kidney*, New York, Harper & Bros., 1931.

2. Parmenter, F. J.; Foord, A. G., and Leutenegger, C. J.: *J. Urol.* 24:359, 1930.

1928 he was sick for about 6 weeks with chills and fever and sinusitis. The patient thinks he had malaria at this time. In November, 1928, tonsillectomy was performed. Following this the patient returned to work until onset of present illness. He had gonorrhea in August, 1929. He was treated by a physician for three weeks and took a "prescription" for four weeks more. Thinks he was cured.

Present Illness.—Onset about November 1, 1929. The patient began to have a dull headache and backache. He had several night sweats, severe pain in the right chest and a high fever. He entered Noyes Hospital on November 12, 1929. He had some bloody sputum while in the hospital but no tubercle bacilli were found. Roentgenogram of the chest at this time reported hilum tuberculosis in both lungs, more marked on the right. The urine

Nothing very definite was shown at this time although it was thought the patient might have a tuberculous right kidney, but repeated examinations of the urine for tubercle bacilli were negative. The patient went home and was observed for a time. Roentgenological examination by Dr. McGlothlin in January, 1931, showed no evidence of pulmonary tuberculosis. He continued to have right lumbar pain but no urinary symptoms. On February 12, 1931, he entered Missouri Methodist Hospital for further study. Bladder urine at this time showed 2 plus pus, occasional red blood cell with occasional cells containing intracellular diplococci. No tubercle bacilli found. The red blood count was 3,520,000. Hemoglobin was 75 per cent. The white blood count was 10,000 with 65 per cent polymorphonuclear cells, 31 per cent small lymphocytes and 4 per cent



Fig. 1. Pyelogram showing normal right kidney pelvis.



Fig. 2. Pyelogram taken two months later showing dilatation of right kidney pelvis.

contained pus cells, three plus. He was discharged from the hospital November 20, 1929, diagnosis, incipient pulmonary tuberculosis. In January, 1930, he was sent to the State Sanatorium where he stayed four months. He was losing weight at this time and continued to lose weight until he had lost 40 pounds. He was discharged from the hospital as nontuberculous. Throughout 1930 he was sick with upper abdominal trouble more or less constantly. Pain in the right lumbar region was persistent. He was not able to work at all but was not in bed all the time. On December 10, 1930, cystoscopy was performed at the Noyes Hospital. Findings: Flow of urine normal from each kidney. Indigo carmine functional test: left, appearance time 8 minutes, good concentration; right, appearance time 8 minutes, concentration poor. Pyelogram taken at this time was reported normal (fig. 1). Urine from the right kidney: pus cells, 1 to 3 per high power field, few cocci, few bacilli. Left kidney: urine negative.

eosinophils. Wassermann and Kahn reactions were negative.

Physical Examination.—A light complexioned man, rather pale, aged 25. Showed evidence of considerable loss of weight. Looked chronically ill. Examination negative except for tenderness on deep percussion over the right costovertebral angle.

It was decided to repeat the cystoscopy and pyelograms. Findings: The bladder at this time showed a fan-shaped area of redness on the trigon at the right ureteral orifice. Catheters were passed to each kidney. The character of the flow from the right kidney indicated an enlarged pelvis. As the right kidney pelvis became empty frank pus was aspirated from the catheter. Indigo carmine functional test showed good concentration of the dye appearing in four minutes from the left kidney and no appearance of the dye from the right kidney in thirty minutes. Pyelograms showed the left kidney pelvis normal. The right kidney pelvis was somewhat

larger than the left and the calices in the upper portion appeared somewhat dilated and blunt. No stones were seen. The ureter appeared normal (fig. 2). Urine from the right kidney was negative for tubercle bacilli and showed many gram-negative intracellular diplococci. Left kidney urine showed an occasional pus cell. Diagnosis of right gonococcal pyelonephritis was made and it was decided to do a nephrectomy.

Operative Findings.—Nephrectomy. Feb. 23, 1931. Ether anesthesia. Through a right lumbar incision the kidney was exposed. There were dense adhesions around both upper and lower poles of the kidney. Much of the fatty capsule was plastered down to the surface of the kidney. At the upper pole of the kidney an abscess was broken into which contained creamy yellow pus. This was seen to extend into the upper pole of the kidney. The kidney was removed and the incision closed with drainage.

Pathological Report.—The surface of the kidney is hemorrhagic and studded with a number of miliary abscesses or tubercles. Cross section shows destruction of renal tissue by these masses and in addition many large pus pockets. These have no

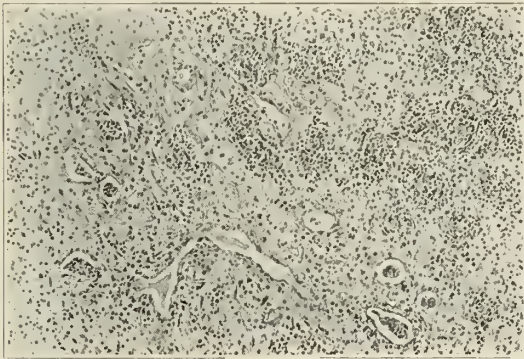


Fig. 3. Low power photomicrograph of section from cortex of kidney.

apparent connection with the calices or pelvis. The appearance suggests an acute suppurative condition rather than tuberculosis. The ureter is swollen and edematous but its lumen is not dilated. Smears from the pus showed gram-negative intracellular diplococci, but no tubercle bacilli.

Histological Pathology.—The capsule of the kidney is thickened, edematous and shows areas of marked extravasation of red blood cells into the stroma. Subcapsular small lymphocyte infiltration extends throughout the section examined. General microscopic examination of kidney tissue shows diffuse foci of small round cell infiltration, large and small abscesses and large areas showing little kidney structure consisting of compressed remains of glomeruli and tubules, markedly thickened interstitial tissue showing pronounced polymorphonuclear cell, small lymphocyte plasma cell and eosinophil infiltration. The glomeruli and tubules show various acute and chronic inflammatory changes. These cells are found in dense masses. Periglomerular and peritubular small cell infiltration is marked in areas. Minute inspection of glomeruli shows some appear normal in structure while others show shrunken loops some of which are adherent to the capsule. Areas show capsular proliferation of endothelial cells, tufts vacuolated appearance. Nu-

merous tubules show shrunken epithelium, dilated lumina filled with polymorphonuclear cells and lymphocytes; still others show no lining epithelium and areas show partial to complete hyalinization of the capillary loops. The wall of the ureter is slightly thickened and shows some small round cell infiltration. The lumen is patent and lining epithelium shows little change. Pathological diagnosis, suppurative gonorrheal nephritis (fig. 3).

Postoperative Course.—Following the operation a transfusion of 500 c.c. of citrated blood was given. Another transfusion was given on the second postoperative day. There was considerable purulent drainage during convalescence. The wound was dakinized and the infection cleared up slowly. He was discharged from the hospital March 30, 1931, much improved. The patient was seen on May 11, 1931. There was still a slight amount of drainage from the wound. Smear from this showed a few short rods and some cocci but no intracellular organisms were seen. The patient's general health was much improved. He was within two pounds of his normal weight but had not yet gone to work. On September 1, 1931, the patient again presented himself. There were no complaints. He had gained about 20 pounds. The wound was closed, no drainage and he was able to work.

DISCUSSION

When we consider the frequency of gonococcal infection of the lower urinary tract, it is remarkable that involvement of the kidney is so rare since ascending infections with other organisms do occur. It is questionable whether these infections go by way of the lymphatics along the ureter or up the lumen. Ureteral reflux in certain cases has been definitely proved. In this case no reflux was demonstrated. It would be interesting to know whether there is any relationship between the presence of ureteral reflux and infection of the kidney with the gonococcus. Carson³ has demonstrated experimentally on rabbits that infection produced in the wall of the ureter (distal end) or bladder passes upward through the perivascular lymphatics to the kidney. He used stock cultures of paratyphoid B. It is questionable whether the gonococcus would act similarly. We do know that the gonococcus rarely invades the bladder wall, and in none of the cases of gonococcal pyelonephritis has a cystitis been present. There is no characteristic appearance of the bladder mucosa in gonococcal pyelonephritis.

We are inclined to believe that gonococcal infections of the kidney are hematogenous. This is difficult to prove because so far it has been impossible to isolate the gonococcus from the blood stream except in severe cases of gonococcal septicemia with endocarditis and other acute hematogenous manifestations. Seldom is the gonococcus found in the kidney in

3. Carson, W. J.: J. Urol. 26:607, 1931.

pure culture. *Staphylococcus* and colon bacillus are most often associated.

Usually the diagnosis of gonococcal pyelonephritis is not made until the patient is examined cystoscopically. Even then the urologist is surprised when the urine specimen obtained upon ureteral catheterization shows the gonococcus as the causative organism of the pyelonephritis. Frequently he wonders if the specimens have not been contaminated by lower urinary tract organisms. Repeated examination, however, will confirm the diagnosis. In this connection I wish to call attention to the fact that a negative urine specimen may be obtained when there is considerable infection in the kidney. This was shown by Geisinger⁴ who demonstrated that the drainage of pus from an infected kidney through an indwelling ureteral catheter is intermittent over a period of hours. This is probably due to the distribution of the infection in the kidney not being uniform so that the entire group of tubules do not discharge simultaneously. Thus, over a given period of time, urine collected may be entirely or chiefly or to some extent from an uninfected set of tubules. Therefore, in the presence of pyelonephritis one catheterized specimen of urine from the kidney if negative does not suffice to rule out infection.

We have had previous experience with two cases of gonococcal pyelonephritis. In these cases medical treatment was used over a long period of time both by mouth and topically (lavage to the kidney pelvis) with little success. Parmenter reports that three of the cases in his series of four cases treated nonsurgically still had persistent symptoms and cloudy urine. He states that medical treatment apparently does not promise much. Since the patient in the case reported was incapacitated for sixteen months, and was going downhill and was anxious to get back on his feet as soon as possible, and in the light of previous experience, we concluded the best thing to do was to remove the kidney.

CONCLUSION

A case of gonococcal pyelonephritis is reported and the etiology, pathology, diagnosis and treatment are discussed.

410 Kirkpatrick Building.

4. Geisinger, J. E.: *J. Urol.* 25:649, 1931.

SCALP INFECTION

An answer to a question concerning head lice in *Hygeia* suggests that irritation may not be due to lice at all. Infection by other fungus may cause various diseases of the scalp that the unskilled observer would not detect.

THE MANAGEMENT OF THE CHRONIC PROSTATE*

H. McCLURE YOUNG, M.D.

ST. LOUIS

You will note that the expression chronic prostatitis has been avoided in the caption of this paper. This is done with a purpose, as it is my belief that many patients suffering from prostatic symptoms have no truly inflammatory process in that organ. The diagnosis of chronic prostatitis is popular and readily acceptable by the patient. It is coming to be a sort of lay diagnosis, like the old widely spread diagnosis of catarrh. There was a time when almost everybody wondered if he had the dread disease known as catarrh, and nowadays most men over thirty are concerned with the question of whether or not they have a chronic prostatitis. They are often confirmed in their fears by the report of the surgeon who finds what he regards as an excess of leukocytes in the prostatic secretion; and that, coupled with some uneasiness in the perineum, backache, sexual disturbance or general lassitude, is regarded as sufficient basis for the diagnosis.

Surely this is not quite as it should be. In the first place, there exists no absolute dividing line between what may be regarded as an excessive leukocytosis in the prostatic secretion and what may be regarded as normal or within normal limits. Furthermore, it ignores entirely the question as to the presence of bacteria. In determining the presence of inflammation, the presence or absence of infection is a vital point, and where the prostatic secretion is sterile even though it contains an excess of leukocytes the question should certainly be considered as to whether such an aseptic process could rightly be described as an inflammation.

In accounting for excessive leukocytosis without infection we must take into account the function of the prostate and the various sources of irritation to which it is subjected. The prostate is a sexual organ. It is intimately concerned with the sexual function and especially with the orgasm. It is a highly sensitive organ as is proved by the fact that light massage will sometimes cause impressionable men to become faint. When in a state of prolonged or even temporary congestion it may give rise to reflex disturbances, such as backache, as well as to local discomfort, generally described as a feeling of fullness in the perineum.

These symptoms have often a very unfortunate psychic effect, giving rise to a feeling

* Read before the St. Louis Medical Society, September 22, 1931.

of despondency and loss of confidence. When this psychic demoralization extends to the sexual sphere as it very readily may the patient may feel that he is losing or has lost his virility. Of course such anxiety reacts very badly upon the general condition and the impotence often complained of is purely psychic and not due to the prostatic condition. Such patients are only made worse by being told that they have a chronic prostatitis and that they need a prolonged course of prostatic massage in order to rid the gland of its pus. Every massage concentrates the patient's thoughts upon his prostate and causes him in time to be abnormally alert to any conceivably abnormal sensation in the prostatic region. It will even go further. Encouraged by the reading of quack literature or perhaps of scientific textbooks, these patients are convinced that they have lost ambition, that they are losing their memory, or that they are threatened with paralysis, etc.

To handle such cases the surgeon certainly must know something of sexual psychology, and indeed of psychology in general. He should carefully estimate all the factors at work in every case and should not routinely and uncritically place all patients upon systematic prostatic massage simply because he finds what he regards as an excess of leukocytes in the prostatic secretion. Certainly above all things, such massage should not be continued indefinitely for months or even years, as I have known it to be, where the patient is getting no better and his psychic condition is getting very much worse.

I believe that it would make for clarity of definition if cases of aseptic leukocytosis were described as congestion, reserving the term inflammation for those cases where bacteria can be shown to play a part in the process.

Congestion of the prostate is certainly easily accounted for when we consider its functions. In civilized life it is not possible for the gland to perform its normal functions regularly throughout the period of maturity. Boys learn quite early the necessity of suppression and while they attain a satisfactory degree of control they are subjected through youth and early manhood to certain adverse influences—all those things which tend to stimulate the sexual desire without furnishing the normal relief. Prolonged necking parties and the reading of licentious literature are only two out of many. It is not contended that these things are altogether evil nor is it contended that an attempt should be made to completely suppress sex consciousness in the young, as is done in Mohammedan countries. The things which boys do by way of sexual experiment apart from actual sexual intercourse probably do them no permanent harm in the long run, certainly not in the majority of cases, but they do account for the common occurrence of prostatic congestion in young men. To this must be added the sexual mistakes of later life, the keeping of late hours, with indulgence in stimulating food and drink. Where these are the factors at work the surgeon must consider carefully whether or not an increased stimulation of the gland, such as is implied in prostatic massage, is likely to be of any real benefit. It would seem more rational often to give the gland as complete a rest as possible, and certainly where local treatment is undertaken it should be given critically with a careful estimate of the patient's progress, both physical and psychic. Indeed, it is often the psychic state of the patient which gives us the most valuable information as to the progress actually made.

There is perhaps no other organ of the body of which it can so truthfully be said that it is

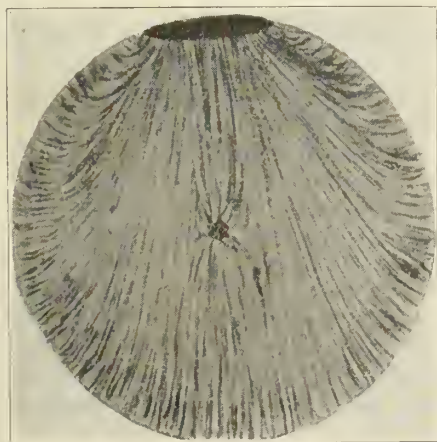


Fig. 1. Small hole in floor of the posterior urethra.

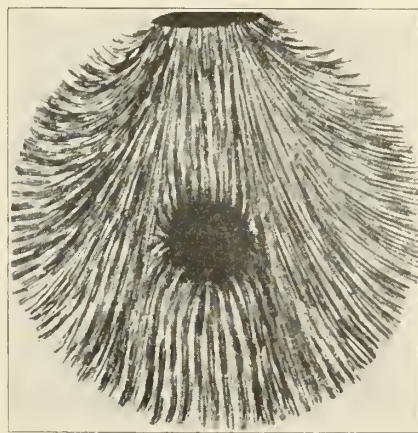


Fig. 2. Same hole with the irrigating current turned on.

the center of a complex mechanism, physical, sexual and psychic. It cannot therefore be adequately considered apart from the mechanism of which it forms a focus. Mere routine treatment of the prostate without any regard for all the rest of this complex mechanism cannot be expected to accomplish very much and may even make matters considerably worse.

Diagnosis.—In the first place, the distinction between true septic prostatitis and an aseptic condition is vital. We must know whether any germs are present and if so what is their nature. Considering septic processes first, we will wish to know whether the condition is secondary to some septic focus elsewhere in the body. If the condition is due to the presence of cocci, the teeth and tonsils should be carefully examined and an endeavor made to determine whether or not a pyelitis is present. In chronic conditions, and we are concerned here only with chronic cases, it is practically always possible to catheterize the ureters. This of course implies a preliminary exploration of the urethra for stricture. Also, we must know whether or not the patient carries a residual urine. In the majority of cases some complication will certainly be found and in general it may be said that attention to the prostate alone will not effect a cure.

The role of gonorrhea in the etiology of these chronic septic cases I believe has been greatly exaggerated. Where the gonococcus is found there can be no doubt that we are dealing with a chronic gonorrheal prostatitis; but where the gonococcus is not found a mere history of gonorrhea possibly years before is of no significance unless the gonorrhea has left anatomical changes, such as stricture of the urethra. The gonococcus is thought to prepare the soil for other germs and while this is



Fig. 4. Electrode in position for fulgurating polyps.

undoubtedly true an ordinary postgonorrheal prostatitis should not run a chronic course in the absence of anatomical changes. We are too prone to assume that a patient with an acute gonorrhea seen for the first time who on recovery from his gonorrhea continues to show an excess of pus cells in the prostatic secretion, is suffering from a prostatitis consequent upon his gonorrhea. We have however no proof that such patients did not have pus in their prostatic secretions before contracting the gonorrhea. Both gonorrhea and chronic prostatic congestion are exceedingly common conditions and it is to be expected that both will frequently be found in the same individual. When, therefore, gonorrhea gets well, leaving this so-called residual prostatitis, it becomes necessary to look carefully for some other cause of the condition and not attach so much importance to the old or even the recent gonorrhea as I believe is generally done.

When the colon bacillus is present there is probably a pyelitis and the treatment should be very similar to that of colon pyelitis, that is, careful attention to the gastro-intestinal tract with an attempt to alter the intestinal flora. Of course in the diagnosis of every case the prostate must be carefully palpated through the rectum and note made of any abnormalities in size or consistency. The seminal vesicles will of course be palpated at the same time. This is done primarily to exclude such conditions as cancer and tuberculosis. Other information is of value, such as swelling, tenderness, periprostatic infiltration, etc., but too much stress must not be laid upon these things in an attempt to make a prognosis. The ultimate prognosis depends upon our ability to rid the gland of infection rather than upon the degree of swelling and infiltration. In fact, a small shrunken prostate with shrunken seminal vesicles may



Fig. 3. Polyps in and over the lateral wall of deep urethra.

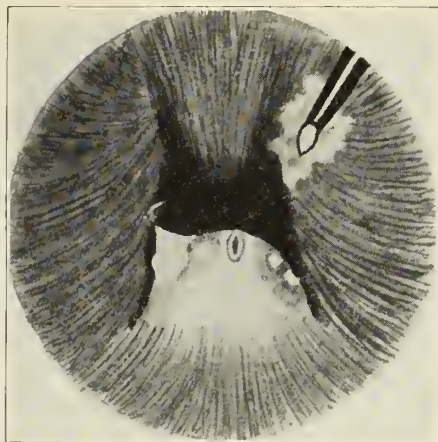


Fig. 5. Diseased verumontanum and deep urethra. Diathermy cauterization of lateral wall.

harbor a very persistent infection giving rise to metastatic trouble, such as arthritis.

In all cases, whether accompanied by demonstrable infection or not, we must know something of the patient's habits. We must know whether or not he gets up at night to urinate, how often he goes by day, whether or not there is pain, urgency, etc. We must know also what his sexual habits are and whether he considers that his potency is impaired in any way, etc.

The symptom of pain has to be carefully evaluated. If the psychic condition is depressed all pains will be exaggerated. Mere fatigue will give rise to backache and if there is a condition approaching psychic exhaustion the pains complained of may be due to this psychic condition as much as to any condition in the prostate.

It is also necessary to be exceedingly careful in estimating the degree of any sexual impairment complained of. The satisfactory performance of the sexual function depends upon a great many other factors than the mere condition of the prostate gland. In fact, I have known patients with large prostates full of pus who made no complaint of any impairment in their sexual capacity, whereas others whose prostates showed only a slight degree of leukocytosis were greatly worried and felt sure that an incurable disease of the prostate gland was destroying if it had not already destroyed their manhood. In such cases, overwork and especially excessive anxiety with a disposition to neglect the essentials, such as sleep, rest and recreation, probably play a much more important role than the condition of the prostate gland does. Often such patients require a little instruction upon the subject of sexual psy-

chology, and a little sane practical advice will accomplish more for them than a hundred prostatic massages. Surely in times like these, we may expect to find a man whose virility is disappointing as long as his mind is preoccupied with the price of wheat and railroad shares, especially if he happens to be long of the market. Loss of virility among members of the stock exchange right now should not be surprising. To uncritically harass such patients with long courses of prostatic massage is absurd. It is the psychic condition which requires attention. We cannot of course relieve the sources of anxiety but we can do something toward restoring the mental equilibrium and compelling our patients to see things in proper perspective. The man who sacrifices health and the enjoyment of life for the sake of business cares is sacrificing the ultimate end in furthering a mere means to that end. It requires no argument to prove the folly of such a course. A man's prostate will not be normal, or at least will not function normally, until he is psychically and physically normal. A single prostatic massage or a very brief course may have some psychic benefit, but psychic impotence cannot be cured by a prolonged uninterrupted course of prostatic massage, and it is my firm conviction that this procedure often makes the condition very much worse.

Prostatitis implies always an accompanying posterior urethritis and the endoscope should be applied in all resistant cases. For a proper endoscopic examination some sort of irrigating endoscope should be employed. There are a number of these on the market, but I personally use the Buerger universal endoscope and the pan-endoscope of McCarthy. With these instruments it is possible to keep the urethra

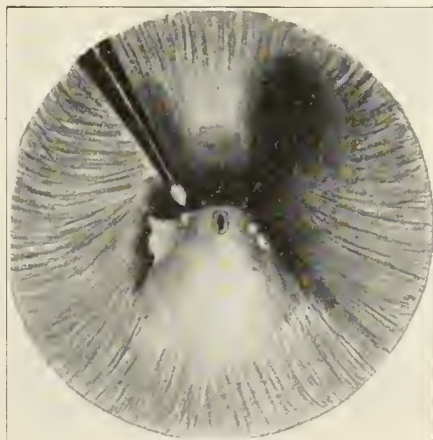


Fig. 6. Same as figure 5. Fulgurating electro in position before the treatment of granulations verumontanum.

distended with fluid while examining it for in this way a great deal of the pathology can be seen which would be overlooked if the ordinary open endoscope were employed. Dilated follicles and the openings of diverticula can be discovered as well as small polyps. The favorite site for these polyps is in the region of the verumontanum where they give rise to a great deal of disturbance. The verumontanum guards the orifices of the ejaculatory ducts and plays an important part in the sexual life. It is exceedingly sensitive and when constantly subjected to irritation a sexual erethism amounting even to impotence may be the result, along with various reflex disturbances. Treatment may also be applied through one of these irrigating endoscopes, using the high frequency current. A single spark will destroy small polyps and granulations. But our diagnosis will not be complete without at least a superficial examination for nervous system disease. I do not mean that all these patients need to be referred to a neurologist, but surely any one can test a man's knee jerks and pupillary reflexes and this much at least should be done in every case.

Treatment.—Having reached a very definite conclusion as to the patient's physical and mental condition we are in position to undertake a rational therapy. When a septic process is present, that is, when bacteria are found in the prostatic secretion, this sepsis must be actively combated. Something has been said incidentally about treatment in discussing the diagnosis, but let us here repeat that in these septic cases some other focus of infection should be looked for. The teeth and tonsils should be attended to, the bowels regulated and the gastro-intestinal tract put in as healthy a condition as possible. Pyelitis should be looked for. Where pyelitis is present the prostate requires no treatment beyond washing out the kidney pelvis through the ureteral catheter. Vaccines may be employed to heighten the resistance and protein shock is also sometimes useful. A valuable remedy for septic prostatitis, and especially seminal vesiculitis, is neoarsphenamine given intravenously, or sulpharsphenamine may be given subcutaneously. These two drugs contain a formaldehyde radical which is apparently liberated in the serous cavities. The effect of neoarsphenamine in gonorrheal arthritis is quite positive and certain French authorities even regard the drug as almost a specific in this condition. My own experience has convinced me that it is of decided value both in gonorrheal arthritis and gonorrheal seminal vesiculitis. It certainly gives a response which cannot be obtained by

the mere oral administration of antiseptics. It is my belief that intravenous remedies should be much more widely used than they are at the present time. There seems still to exist in the profession a widespread fear of intravenous therapy. This I believe to be founded upon a lack of experience with intravenous technic and therefore a fear of the unknown. Generally, it may be said that with experience in intravenous therapy one acquires an increasing confidence and a tendency to use it more and more. I have used intravenous therapy ever since the introduction of the arsphenamines and I have never had an accident or even been alarmed. I am convinced that the possibility of complication from a properly administered intravenous injection of these drugs is very much more remote than the possibility of complications following a cystoscopy with catheterization of the ureters or even an unwise unduly vigorous course of prostatic massage, which may of course lead to abscess formation, to epididymitis or septic metastasis. For oral administration we have of course some old remedies and the newer dyes, such as acriflavine and pyridium. Sandalwood oil is often an exceedingly valuable remedy, but it must be a pure East Indian sandalwood oil. Much of the so-called sandalwood oil of commerce I believe to be inert. My preference is for the French sandalwood oil sold under the name of arheol. Doubtless other reliable preparations are obtainable. Finally, the most valuable urinary antiseptic of them all is sodium bicarbonate.

As for the use of heat in the rectum, I instruct my patients to empty the lower bowel by means of a hot enema every night before going to bed. This is to be done regardless of whether or not the bowels have moved during the day. In this way we get the beneficial effect of heat upon the prostate and vesicles but, in addition, the entire pelvis is relieved of the pressure of fecal matter in the lower bowel, the circulation in the pelvis is improved and there is a soothing effect upon an irritated prostate which helps to insure a restful sleep. The use of the cystoscope and the endoscope with cauterization of the deep urethra has been mentioned under the head of diagnosis.

Turning now to aseptic conditions, that is, where pus but no bacteria can be found in the prostatic secretion, we are not here concerned with combating infection as there is no infection present. We are dealing with a congested prostate and must find out what has caused this congestion. As long as this cause remains operative treatment will certainly be in vain. These are the cases especially which are made

worse by prolonged, intensive courses of prostatic massage. If massaged at all they should be massaged in courses, a course to consist of from six to twelve treatments. At the end of a course, a period of rest extending over one or two months should follow, and then if it is thought that the massage has been of benefit another course may be given. But it must always be borne in mind that a neurotic patient will frequently fancy that a sense of tension in his prostate is momentarily relieved by the massage of the organ, only to recur in a day or so. It becomes at times difficult to persuade such patients that massage is harmful rather than beneficial and it is for the surgeon therefore to take a positive stand and stick to it. Meanwhile, the patient should be encouraged in every way to improve his morale, and by this I mean his square-shouldered ability to face life and its problems. Where the cause of the prostatic congestion can be discovered, as in some bad sexual habit, it can often be corrected. The commonest of such causes are the indulgence in long sexual meditations, spooning, etc., without gratification and the practice of withdrawal in intercourse. A sedentary life with a tendency to neglect the bowels and a total abstention from even the lightest physical exercise are contributing factors. Finally, the state of celibacy being a departure from the absolutely physiologically normal may entail a slight degree of prostatic congestion which can only be partially controlled by a strict regimen. Here again we have a condition where it is folly to subject a distressed mortal to the constant mental irritation of prostatic massage. It merely tends to center his anxieties upon his sexual apparatus and the result will be to increase the somewhat ludicrous but none the less tormenting neuroses of single life. These patients need advice, a frank explanation of the nature of their difficulties, a little instruction in psychology and even a little philosophy. As a rule, they can be made to forget their prostates if once persuaded that after all their symptoms are only natural under the circumstances.

These aseptic patients however often have a congested verumontanum, the result of prolonged irritation which often shows no tendency to subside even under a corrective hygiene. They require a cauterization of the verumontanum. Where polyps or granulomata are present cauterization is best done with the fulgurating spark through the irrigating endoscope, but in other cases my preference after making the diagnosis is for painting the verumontanum through an open endoscope, such as Young's or Swinburne's, with a strong

solution of silver nitrate, from 10 to 50 per cent. Fused silver on an applicator may also be used and it has possibly less tendency to spread over onto the healthy mucosa.

In conclusion, I do not wish to leave the impression that I am opposed to the use of prostatic massage. Properly used it is certainly an invaluable therapeutic measure. It should however be given in courses and never uninterruptedly over a long period of time regardless of whether it is doing any real demonstrable good. It is especially valuable in the subacute or subchronic septic cases, harmful in acute cases and of doubtful value in the chronic aseptic cases. In the latter it should be regarded as merely supplementary to the establishment of a correct hygiene, general and sexual, and the establishment of a proper mental attitude, that is, a properly balanced psyche. The urologist must be somewhat of a psychologist and even a moral philosopher if he is to accomplish the utmost possible good for these patients.

624 University Club Building.

THE NERVOUS PATIENT *

FRANK PARSONS NORBURY, M.D.

JACKSONVILLE, ILL.

When we dig down to the foundations of the social life of man, noting its development and man's adjustment to the structure of civilized society, we find confirmatory evidence that it was the evolution of the human brain, the organ of the creative mind of man, that made possible his place in evolutionary progress.

When we survey the records of successive eras of "living things" so interestingly told by Wells (father and son) and Huxley in their recently published work, "The Science of Life," we have concisely but explicitly the history of each era or age marked by the advent of more advanced types of animal and vegetable life, the most advanced of all, man himself, being the latest to arrive upon the scene. Thus, the biological foundations of society were laid down and man as a member of the animal kingdom, subject to the same laws of evolutionary progress and retrogression, emerged to take his place at the head of the world of life. As such, he is the leading representative of the highly specialized line of evolution, with its increasing complexity of structure and corresponding increase in the fullness of life. Professor Elliott Smith has clearly emphasized this when he says: "The

* Read before the guests of Dr. Curtis J. Lyter, St. Louis, May 1, 1931.

gradual increase in the complexity of the structure of the brain has arisen in response to the stimulation which different parts of the brain have received, through the same organs and their nerves, from the external world and through other nerves from other organs of the body. The evolution of the mind of man, including his spiritual qualities, has led to the creation of a new kind of environment, an environment of mental images and emotions which may have no relation to the physical environment for the time being but under the influence of which the mind builds itself up in much the same way as the body builds itself up under the influence of physical stimuli. At the same time the mind becomes consciously creative—the being (man) must always be, in a greater or less measure, a poet."

This new mental environment now leads the way in progressive evolution, just as the physical did in the lower stages. The mind thus creates for itself an environment which supercedes the purely physical environment. It maintains intellectual dominance by the formulation of ideals and by creative thinking, thus enabling man consciously to regulate the external environment and making social adaptation a distinguishing and desired result in evolutionary progress. Mankind, the human race, is thus shown to be something apart from the rest of the world of life. Frederick Tilney in his fascinating and highly instructive book, "The Master of Destiny" (being an abridgment of and philosophical deductions from his masterly treatise "Brain from Ape to Man"), delineates man's place in nature as having been attained through the "master organ of destiny," the human brain. He says: "This master organ of life holds the secret of human success, that its foundation is human progress, its neglect human disaster." In speaking of the progressive development of the brain Tilney says: "Were we to select any single area in the superbrain as the department supreme in mental organization, we would favor that part of the superbrain which has been active as the superlative sense combiner, which has served to develop the fullest impressions of human existence, to accumulate the widest ranges of experience, to direct most broadly the actions of our behavior. Traced through all of their intermediate stages upward, it is the frontal regions which manifest the most conspicuous development. The process of this long progressive expansion in the frontal lobes reaches back to the earliest periods of man's existence. It conveys an accurate impression of the manner in which the brain has responded to the demands made upon it. The human brain may still be considered to be in its early youth, in

spite of more than a million years of human striving that lie behind it. This great antiquity and this remarkable flexibility have been largely overlooked. By most of us the human brain is regarded as a finished product. Its long, prehistoric record as we know it today does not support this point of view. On the contrary, it makes it appear far more probable that the brain of modern man is only some intermediate stage of the ultimate development of the master organ of life. The greatest possibilities for future progress lie in further expansion of the frontal lobe. . . . For this reason the brain of prehistoric man is not merely an antiquarian relic; it is a sign from the long ages of the past showing the road man has followed in his upward course. It likewise conveys some suggestions concerning the future. For, if the human brain began as a simple organ and gradually developed through successive stages there is reason to believe, if not predict, that it may develop still further." Paralleling the slow evolutionary development of the central nervous system and its orderly integration has come social integration which to the biologist means that human behavior has likewise become individualized and definite.

The laws which governed organic evolution in its earlier stages have not been repealed. Man, as we see him today as an actor in the slow stupendous and purposive drama of life, is striving to adapt himself to and trying to control his evolutionary destiny. In this struggle with the many and varied conflicts which beset him, especially in his social integration, we find most of our clinical problems of the nervous patient. Social integration of an individual rests upon his ability to react to an environment, to transmit the effects of such reaction which are to influence his present and future behavior. The fundamental laws of social and physiological integration appear to be essentially similar in that they both represent general behavior patterns resulting from reactions of living protoplasms to their behavior. As I am a believer in the biological foundations of society I perhaps stress too much the problems of the nervous patient as having their source in the biological factors and their integration concerned in the individual's make-up. Factors which, in their individuation, contribute to the physical basis of his personality and which in their very varied deviations as marked in his behavior patterns and reactions to his environment, make him the nervous patient. Deviations in behavior let it be said are not necessarily from the average individual but may be deviations from his own behavior patterns. Every experienced clinician knows the average indi-

vidual is rare or nonexistent and the only criterion we have to go by is the theoretical, hypothetical mean of the man in the street, which may extend in many directions. In other words, we do not know the normal latitude of the average man; in our clinical problems we measure him by his own behavior reactions. This theoretical mean in the direction of personality is one that concerns us greatly when we are confronted with the problems of the nervous patient.

Here enter the factors that contribute to the development of the neurotic personality the physical basis of which, potentially at least, is found in a long series of interactions between the original physical constitution, its definite hereditary composition and the environment surrounding the individual during the years of his growth and character development. The manifold variations and deviations which arise from the interactions between the germinal basis and the developmental environment are responsible for and are important factors in determining the nature and success of the final personality. We all know as Stockard emphasizes in his recent book on the "Physical Basis of Personality," that "There is no question of the degree of importance between the genetic background and the developmental environment; neither is sufficient without the other." Without genetic basis there is no individual, and without a suitably arranged complexity of environment the complete genetic basis is unable to produce the theoretical or average individual. The interaction between the individual and the environment is continuous from the germinal beginning to the end of life, and it is mutual; each modifies and affects the other. The individual and the environment are not separate; they are parts of a larger arrangement. Stockard speaks of the internal environment of the individual as due to peculiar stuffs produced within the individual the actions of which cause variations in genetic constitutions, as is indicated by peculiar hereditary growth—responses which are secondarily dependent upon internal secretions. Analysis of the genetic basis for differences in growth responses and a study of their developmental reactions has not yet been accomplished. Kretschmer has investigated the biological factors concerned in the make-up of the personality of the individual as directed from the psychiatric point of view. He directs his inquiries toward constitution, character and temperament. By constitution, he means the totality of all individual peculiarities which are referable to heredity; which have a genetic basis. He based his investigations on one class of constitutional factors, namely; the mutual

relations between physique, psychological dispositions and a psychiatric and internal morbidity. The notion of constitution is essentially psychophysical and general—biological—and has to do with the interrelations of body and mind. By character is meant the totality of all possibilities of affective and voluntary reaction of any given individual as they come out in the course of his development; that is to say, what he inherits plus the exogenous factors of bodily influences, psychic, education, milieu and experience traces. Character lays the accent on the affective side of the total personality without the intelligence being separated from it at any point. Character, therefore, briefly stated means the general structure of the personality without laying any particular stress on the differences between the constitutional factors and those which are exogenous in origin.

Temperament has largely been studied empirically. It has to do with mental events correlated with the physique of the individual, the mechanisms of which are controlled by the brain-glandular apparatus. Temperament works in with the activity of the psychic apparatus, providing feeling tone, inhibiting and pushing forward. Temperament has its biological foundations in the brain even in so far as they proceed from the chemistry of the blood. The direct action of the brain can cause modification of the temperament. Temperament has clear influence in behavior reactions of the nervous patient as shown in psychasthenia, abnormal sensitivity both hyper and hypo in quality. It colors mood—the pleasure-pain reaction, particularly on the scale which lies between gay and sorrowful. It has to do with inhibitions and the formation of complexes. Also the psychomotility—general bodily movements and the special mental responses of psychic activity. It is an empirical fact that the internal secretions influence mentality, especially the temperamental qualities, as we all know from clinical experience. Kretschmer has defined certain constitutional types which have been accepted as contributing to better clinical understanding of psychiatric problems. There are three types, viz., asthenic, athletic and pyknic. They are correlated with psychotic categories as well as in biological factors in certain established internal diseases. Draper has enlarged the scope of the constitutional inquiries, the general and special characteristics being carefully delineated. We will not dwell upon constitutional types, but there is no doubt that real psychic syndromes, of which the nervous patient is one representative, have somatic factors which special treatment may control. And, if early recognized and prompt

first aid treatment is given, these may serve to guide the patient through the formative years, which, indeed, are paramount in directing the future of the nervous patient. Keeping in mind the fact that the question of adjustment to environment and circumstance is the issue, however formidable, when we undertake the treatment of the nervous patient, we see how important it is to have understanding of the biological factors which enter into the clinical problem cases. We purposely reviewed some of those biological factors which have to do with the mechanisms of the nervous system, of which the brain as the organ of destiny controls the internal adjustments, over the environment. These adjustments form the most potent internal conditions for enabling the individual to maintain and increase dominance over the environment. One has to be adjusted to the environment and circumstances of life in order to hold one's place in this busy, stressful, everyday life. To meet this struggle and to have and to hold dominance the brain of man is the best weapon. Around this "thinking machine," as called by Herrick, and concerned in its physiological and psychological attributes are to be found the clinical problems which we meet in the nervous patient. Alas, the humanistic aspects of these everyday problems may be recognized but their vital mechanisms are almost everywhere misunderstood as they operate in everyday life and society. Herrick says the more we know of the world the more likely we are to adjust to it. The more we know of the mechanisms of natural events the more we can adjust our behavior to them. The popular idea of mechanisms and of machines in fact is too limited. Mental mechanisms mean integration, mean decisions made appropriate to commands and when properly dispatched result in definite action. Integration normally means orderliness, and stresses the fact that the organism is not merely the sum of its independent parts but consists of the parts plus all physiological relations between them and the wholeness; the unity consists rather in the relations than in the parts themselves. Dominance in its most general physiological form apparently originates in the more rapid liberation of energy. Sherrington, in his studies of integrative action of the nervous system, has shown that the nervous system unifies separate organs working through living lines of stationary cells along which it dispatches waves of chemiophysiological disturbance which act as releasing forces in distant organs. There are other means, viz., mechanical and chemical, which contribute to the integration of separate organs. The brain as the central nervous mass, with the ensemble

of cranial and spinal nerves and the autonomic nervous system, makes up the machinery of integration of the nervous system.

Every personality is an emergent from a variety of components. These components group themselves into certain categories and, however similar these components may be in different personalities, their relatedness always varies. Therefore every personality is individual. So far as the nervous system is concerned we may sum up the bodily components of personality as patterns of neurons arranged in greater or less complexity. These patterns permit of greater or less degree of facilitation of activation from one neuron to another or may permit of more or less inhibition. This facilitation or inhibition will depend to a certain extent on the pleasure or displeasure involved in the experience which results from activity of these patterns and further modifications result from the facilitation or inhibition so induced. Regardless of the neuron patterns temperament, or the make-up of the personality, enters here to create marked individuation in our clinical syndromes. We cannot trace exactly the temperamental factors, and the hierarchical arrangement of neuron patterns combines so that the mental picture presented is made possible. The neuron patterns involved, and whose activity gives rise to mental functions, are very complex and represent the activity of the central nervous system, the autonomic nervous system and the endocrine organs, all under complicated association. Neurotic behavior must consider the very highly organized affective processes, their coordination, their response to and association with the instincts and their integration in the development of personality. We know that the normal personality is nonexistent as everyone is a different emergent—an individual creation. So, after reviewing the biological factors that enter into the formation of distinct and individual personality, let us now consider the nervous patient.

Every nervous patient is a different and distinct personality, hence a unique and separate problem. There are no set rules or regulations applicable either in diagnosis or treatment that can be followed. We always find the unexpected is expected. In other words, we adapt ourselves to the clinical problem and proceed accordingly. This is the application of the art of medicine as well as the science. However, there are certain general principles gleaned from experience and observation that aid in distinguishing the neurotic patient. The chief of these is the failure in the adaptation of the various parts of the personality to each other. The failures are in adaptation to the

environment both without and within and maladjustment of the behavior patterns that apply both to the mental and physical activities. The physical hierarchy as revealed in the neurological examination not infrequently leads one to suspect organic disease when in fact it can be shown that the inhibitions are quite definite and predictable phenomena, obeying definite physiological laws. The genesis of neurosis is to be found in conflicts. Conflicts in the neurotic create the neurosis because the neurotic lacks the complete integrative function which belongs to a wholesome and fully developed cortex. The brain is the master of destiny; the cortex holds the potential power of control. But no one has his cortical function developed so perfectly that the components of every or any situation which is met can be perfectly organized and integrated; this is a stage in evolution to which humanity has not yet reached. There is within all of us this incompleteness in cortical integration that, given a difficult situation, a dilemma beyond our comprehension, we may behave at least temporarily as does the defined neurotic patient. We know, and I myself have experienced, that in conditions of illness, fatigue, toxemia, etc., the subject has great difficulty in adjusting to or dealing with conflicting situations. Thus is developed a neurosis, psychoneurosis, which may last only a few weeks if the individual was fairly normal or stable before the onset of the difficult situation. The war neuroses overwhelmed us with examples, from the simple to the more formidable and severe types of neuroses. There are individuals inherently unable to adapt to situation of stress and consequently become well defined cases which in handling require tactful and intelligent consideration. Adaptation to environment is only a part of the problem of the nervous patient for the reason that the environment may itself be wrong. By the laws of evolution both we and our environment are engaged on the march of progress. If perchance we are ahead of the environment the maladjustment is to our credit. We should change the environment to make it adequate to our needs. On the other hand, if the maladjustment is in our personality then the instability becomes a problem of individuation and concerns us. Any special call for a new adaptation whether biological or environmental will favor the manifestation or appearance of neurosis. The neurotic personality is the factor which permits circumstance or environment to create a conflict with reality. In this conflict two patterns are concerned within his self-regarding sentiment neither of which can gain the ascendancy and suppress the other, nor can they become integrated and so

fuse with one another. Consequently, in this conflict associated subpatterns enter, give rise to symbolic representations and cause visceral manifestations and emotional upsets of a more or less distressing kind. Anxiety states, dissociations, repressions, etc., occur. These perturbations involve a good deal of speculative discussion which I will not attempt. We really do not know what it is that causes the very varied neurotic symptom-complexes, yet we do know their mechanisms. The basis of the understanding of the mental mechanisms of the nervous patient we know is the fact that the human organism is amenable to mental influences. This fact has been established by scientific research and to a certain extent by successful empirical experience, yet too vague to be expressed in scientific formulae. From a few hours after birth, according to Watson, to the vicissitudes of old age, man is subject to influences which come to him through the senses, appear within the field of his mental activities (instinctive and acquired), and are the constructive factors in his mental growth and development and the molders of behavior patterns. Whether we accept the teachings of Watson, (the behavioristic mechanistic psychological school) which eliminate instincts, or follow the more scientific, dependable and established psychology represented by such leaders as McDougall, Thorndike and others, the fact remains that the human organism undergoes a process of growth; growth in behavior, growth in intellect, of practical everyday knowledge, and the addition of motor habits, and by the inhibition or curtailing of instinctive urges and emotional tone. McDougall has outlined the specific primary instincts with their accompanying primary emotions which are factors in our social adjustments and which control human behavior, the science which is designated as social psychology. McDougall propounds a theory of action which, as he says, is applicable to every form of animal and human effort, from the animalcule's pursuit of food or prey to the highest forms of moral volition. He says we form our notion of behavior by the observation of living things. The creature or living thing in his movements is striving persistently toward an end. This end subserves in some way the life of the individual creature or his species. This striving is not merely a pushing in a given direction but is governed by overcoming of obstacles encountered, hence there is variation in direction as needs be. Behavior, according to McDougall, then, is a persistent trial of striving toward an end with, if necessary, variation of the means employed for its attainment. In behavior the whole organism is involved and in

every case of behavior the energy of the whole organism seems to be concentrated upon the task of achieving the end; all its parts and organs are subordinated to and coördinated with the organs primarily involved in the activity. Mental processes seem to be always a process of striving; always in an activity in respect to the object sought or end to be attained. The change which is to be and is effected and is the goal or end of action, forms the basis of most of our clinical problems. We normally desire and strive after some object or end. The moving power of the desire is the feeling which we experience at the time of action; when we desire food we strive for it. It is the thwarting of desire in some manner or form that may be the insidious beginning of the so-called nervous breakdown. All is not right in the adjustments to environment or circumstance. A worry, a grief, a fear, a mental shock, a disappointment, etc., may be the entering wedge, the mental cause, that blocked the plans for striving for the desired goal. Around such a mental cause is built up the complex that is to hamper the social activities, usefulness and physical health of the patient. Now it is we see the value of knowledge of the fundamentals of nervous and mental mechanisms, also the personality and characteristics of people. We meet as patients certain people who from childhood have been nervous and suffered from troubles of all kinds. Again, other people whose native nervous capital has proved adequate for many years until some day there comes an unusual draft on their balance, then they succumb and become a nervous patient.

The first group, the constitutionally weak and subject more or less habitually to the stresses of everyday life, pay the penalties for their great mental ability. Quick and intelligent, they enter into daily activities with the utmost zeal. As a result they get more out of life, have a greater capacity for enjoyment, and yet when life loses its zest, as it does very readily, then is shown their greater ability for misery and woe. Nervousness may vary from trivial sense of discomfort to complete collapse where both mental and physical functions are exhausted. Between these grades are many variables in which occur emotional upsets, yes, brain storms, to mild mental inconveniences. So our problem cases may present in individual cases the whole gamut of nervousness, from mild worries, obsessing thoughts, functional disorders, such as nervous indigestion (so brilliantly and thoroughly discussed by Alvarez in a recent publication) to complete mental collapse.

Then come the more profoundly unstable individuals in whom may be found excessive sug-

gestibility described by Janet, in which mental and physical symptoms interlace to produce remarkable reactions clinically designated hysteria; a group which fortunately seems to be growing less as compared to observations of forty years ago.

The nervous cases we see in the sanatorium usually represent states of exhaustion, of irritable fatigue, etc., with heterogenous and strange disharmonies. Alvarez has described this type in a very practical way, emphasizing the functional disharmonies of fatigue and nervousness of various forms but stressing the need on the part of the physician to focus his attention on the weakness of the patient and on his inability to stand up to the strain of life, and not on the aches and pains, etc. Here is where we have to think of the physical factors concerned, but more particularly of the mental attitude of the patient. When one has to deal with an organism so closely bound up with the activities of the body as the nervous system and where exhaustion is a fact and not a fancy, then it behooves us to apply rational methods to overcome the exhaustion. The primary indication for rehabilitation of the patient is rest. Crile has shown us the clinical pathology of exhaustion in his studies of the kinetic system. It was my pleasure to see demonstrations of his work when he first postulated his kinetic theory. This was before the World War. During the war and since he has carried his research work to the point of scientific proof of man being an adaptive mechanism. If our clinicians dealing with the problems of the nervous patient could follow Crile through his laboratory and see the confirmatory evidence of exhaustion in which the brain, thyroid, adrenals and liver were all concerned in producing exhaustion phenomena, I believe we would hear less of psychoanalysis *per se* and more of rational rest methods of treatment. I do not mean to decry psychotherapy; on the contrary it should be an adjuvant of systematized rest methods of treatment. The working cells of the body when exhausted need rehabilitation. And now let it be said, without adequate knowledge of physiology and clinical pathology, such as Crile has so scientifically presented to us, we could not do justice to the problems of the nervous patient. "Without this fundamental knowledge we would be likened to the exploration of an uncharted sea without the aid of a compass."

It is quite evident, however, that other essentials are necessary in the practice of neuropsychiatry, essentials to be found in the personality and temperament of the physician. He must have certain qualifications that are absolutely necessary if he is to succeed in being of

service to his patients. Alvarez says in speaking of the handling of the problems of the nervous patient, he "believes there is a need today for a new specialty to be practiced by men of S. Weir Mitchell's stamp, who will devote themselves to the care of those nervous patients now wondering about 'no man's land.' These practitioners will have to be born with a liking for the work and a special fitness for it and they will need the widest training in medicine so that they will always be sane and not likely to make the mistake of hanging on to patients who could more easily be cured by the surgeon." Having myself profited by contact with Weir Mitchell in my formative years in medicine and having followed his teachings for over forty years, I believe I am in a position to refute many of the criticisms directed toward systematized rest methods as developed by Mitchell. One recent author, Dr. Emanuel Miller, in his book on "Modern Psychotherapy," says, "The Weir Mitchell treatment is still being used *in toto* in certain back waters. It must be rare for this method to achieve a real cure when it is used *in toto*." My answer is, that the experienced physician with a broad understanding not only of psychopathology but of psychobiology uses rest methods *in toto* or in parts, using his brains in outlining selective treatment. He succeeds because the biological factors—the mechanistic equations—are not lost sight of as in the practices of psychoanalysis. And he succeeds because he is mindful of the fact that he is dealing with a patient and keeps in mind Salmon's admonitions that, "No treatment is really scientific or really practical that does not seek to restore all the relationships that have been disturbed, but neither the exact nature of these relationships nor the exact nature of the disturbances that have taken place can be understood without the knowledge of the kind of person it is in whom events are taking place. It is obvious that in any concept disease, broad enough to give adequate weight to the individual himself, the psychological as well as the physiological and biochemical reactions that occur as the causes or effects of disease, must receive consideration."

And now we are ready to approach the patient, learn his story, find out what kind of a patient he is and all that we can learn about him. Our first contact with the nervous patient has within it the potentials for success or failure. Success if we win his confidence; failure if we do not. Let us keep in mind that most neurotic patients are accessible, usually quite susceptible, to the novelty at least of meeting another doctor who is going to try to unravel the perplexities that beset him. As a rule, ere the patient has reached your office, he

has been seen by a number of physicians who may have expressed the results of their examination in terms which are purely physical. It is, therefore, incumbent upon us that our approach be tactful and kindly, with the assurance that we want to hear the whole story. You will generally find that the patient is willing to confide in you and when given this opportunity he will reveal himself much more completely than if you try to interrupt him or limit his recital of what he considers to be essential facts. True, you may have to guide him in order to get the chronological detail, the related facts, and to have them presented and evaluated as dependable clinical data. Not only must we let the patient recite his story, but we must carefully and sympathetically listen to him. It is well to make notes of all the essential facts and enter the notations on the clinical record for future reference. You will need them if you and your patient are to travel this rather arduous road together with you as his guide. I have original notes on cases that I have followed for 35 years, notes that recite the rather fitful experiences which fall to the lot of a patient endowed with a neurotic personality. My experience has taught me that usually you cannot get the history, nor is it advisable, in one appointment visit of even an hour's length. No, it is far better not to set a time limit, nor try to hurry him as if you want to get rid of him. In our clinic, we have the patient enter the sanatorium and remain long enough to get the information—related facts—we seek. Then we determine the clinical value of the related facts. Our interpretation of these facts can only follow after we have made a complete physical examination, including the laboratory findings. It is impossible to separate the physical facts from psychical or psychical from physical. Every physician and surgeon in whatever field of practice he may engage should keep this association before him. Every sign and symptom, every part of the patient's story should be considered in weighing clinical evidence, remembering that it is in the related facts we find clinical values. Let it be said that in this phase of examination after the patient has told his story, the examiner should take his turn in talking by asking questions. He should quiz, and in systematized order, concerning the organs of the body, their functions, etc. In this systematic order the physician can ask the patient, whether man or woman, certain definite and important questions concerning sexual life, sexual functions. Coming in this routine way the patient is less liable to hide information that in the neuroses in particular and nervous disorders in general, is very valuable clinical data. If the patient

at this time conceals these facts which have relative value you may have difficulty in ever getting the true story. This failure "to come across" with such facts is in itself suggestive of a sex-complex which later observations usually confirm. It is important that we now estimate the facts gleaned from history, from physical, neurological, and other examinations, in their related values. It is important to note the patient's behavior during the examination, especially the emotional reactions, their nature, etc. They are useful clues inadvertently dropped at such times which may open the way to learning the whole history even to the smallest detail. Here is where the opportunity is given to study the patient as an individual, and this study is no less important than the disorder which has made him a patient. Here is revealed the moral and mental substratum of the individual. Now we need all of our knowledge of physiology, psychobiology, constitutional types, integrative action of the nervous system, especially the mechanisms of the autonomic nervous system as delineated by Cannon and Kemp, and the mental mechanisms of Freud, now generally acceptable guides in the study of human behavior.

It is thus seen that the determining factors in human behavior have to do with the elaboration and specialization of function. The different reactions (almost always defensive in type) call for the restoration of the impaired balance in man. The reactions are marked by very varied symptoms in states of ill health, proportional to the strength of the stimulus and to the degree and extent of the response. According to their intensity and complexity these defense reactions, whether in sickness or in health, are categorically described as general sensitivity, reflex actions (conditioned or simple), instinctive or emotional reactions, etc. All are very closely associated with such adjustments as are concerned in making provision for and control of nutrition, locomotion, secretion and other processes of basic importance for the preservation of the life of the individual. We must bear in mind that in the patient's story these processes of maladjustment are in evidence as appropriate defense mechanisms and taking place in the higher mental levels, giving expression to his temperament and character, and are indissolubly connected with the mechanisms of the nutritional, circulatory and other physiological functions. Behavior reactions, let it be said, are only in a limited sense the full expression of the brain and nervous system, since this great defense mechanism of adjustment is in turn influenced and to some extent controlled by the organ it regulates. Our clinical problem cases call for

us to redress the balance after determining to the best of our ability the disorder which has brought the patient to our door. We may never determine a positive diagnosis. I have heard Weir Mitchell say that nervous patients have come in and gone out of the infirmary as cured without a diagnostic tag being tied on to them. The key to the problem case, however, must be sought in the human mind. And we should be thankful that with the aid of all modern methods of investigation we can so successfully and satisfactorily treat the very varied problems of the nervous patient. In line with Dr. Mitchell's comments, Dr. Ash says, "After all, to cure without knowing why, is perhaps better than to know why without curing."

Now let us consider some of the details of treatment seeking to redress balance and to effect a clinical cure. We know from the highly scientific studies of Crile that man is an adaptive mechanism. But he is more; he is a moral agent and too he craves satisfaction in his attainments, hence the need of seeking to find the goal or goals of the patient's endeavors and the limitations of his nervous machinery. Here is where psychotherapy enters to aid in redressing the balance by seeking, judiciously, the cause of the worry, grief, anxiety, etc., responsible for the evident complex. The admitted proof having been shown to have a mental cause, the rational method of restoring mental balance, adjustment to the related facts, must be through the mind. The methods of psychotherapy need not concern us greatly; whether the three basic principles, suggestion, persuasion or analysis, be followed singly or collectively does not matter. We are seeking to overcome conflicting situations by explanations to the patient that he may have insight and thus allow his emotional systems to quiet down so that nervous energy may be conserved and be given different direction. In other words, we are pointing the way out from the labyrinth of the dilemma. Complex thinking, says Bernard Hart, has for the essential feature the stream of consciousness being directed by a force loosely described as an emotional system. The emotional systems are of all sorts and kinds; they derive their propulsive and directive power from the incorporation within them of one or more of the great instinctive forces of the mind. The therapeutic employment of psychotherapy is a feature of the everyday experiences of the physician in whatever field he may engage. We know that as a man thinketh in his heart so is he. And it is likewise true that the nervous patient is on his way to recovery as soon as insight gives him conviction that he is going to be cured. Du-

Bois says, "He is cured the day he believes himself cured." But there is much detail that has to be attended to ere we as clinicians pronounce the patient cured. Here is where we need both the art and science of medicine to meet the perplexing problems in which exhaustion, environment, circumstances, etc., are paramount considerations to be wisely met ere we permit the patient to be pronounced convalescent, much less cured. The science of medicine is directed toward the physical rehabilitation of the patient. Rest methods are to be followed, and the principles underlying rest treatment as laid down by S. Weir Mitchell are as valid and dependable today as when originally perfected over fifty years ago.

I will not enter into details of this rational treatment as it is a subject worthy of a discussion by itself. The proof of the pudding is the eating of it. And so for rest treatment, the results justify the means. I quite agree with Alvarez in saying the Mitchell book on rest cure, "Fat and Blood and How to Make Them," is a classic that should be in the hands of every physician. To me the one imperative feature of rest treatment is isolation (seclusion) which is in itself a therapeutic need as it gives the physician absolute control over the patient, lessens environmental friction and gives the physician the opportunity to practice psychotherapy under the most favorable situations. Following rest methods comes the period of readjustment to the home situations, the environment, the circumstances of everyday living. During the period of isolation and hospitalization it is possible to inculcate an improved philosophy of life, such as William James so beautifully and sanely outlines in his booklet "On Some of Life's Ideals." Osler has given us the same constructive ideals in many of his beautiful wholesome verities as found in his essays and addresses. It would do us all good to absorb from our work in contact with the nervous patient, to renew our faith in ourselves, our profession, its ideals, as we find ourselves as agents noting how strangely the complexities of this wonderful human nature, as seen in our patients and in ourselves, is revealed and developed under our hands.

OLYMPIC GAMES

The claim is made by an author in *Hygeia* that the Olympic Games of today are running the same course as those of Greece. Soon after prominence was reached and the games were heralded over the ancient world, certain evils crept in: hero-worship, too much publicity, undue prominence to certain athletes. Then came betting and, later, professionalism. As host to the athletes of the Olympic Games this year this factor is important for the United States to bear in mind.

BLOOD TRANSFUSIONS BY THE INDIRECT METHOD

FIFTY-SIX WITHOUT SEVERE REACTION

ALEX VAN RAVENSWAAY, M.D.

BOONVILLE, MO.

During the months of October, November and December, 1931, and January and February, 1932, we had occasion to give a large number of blood transfusions for various conditions, such as pernicious anemia, severe secondary anemia, great loss of blood, septic conditions, etc. We used the indirect method with citrated blood. The blood was collected into a vessel containing two fluid ounces of 2 per cent citrate of soda solution. On an average, fourteen ounces of the donor's blood were added to this amount. No grouping of patients was done, but direct cross matching.

Prior to this time we had had several severe reactions following blood transfusions by the indirect method. The exact cause of these reactions could not be determined. Even with a correct match the patients often had severe chills in from ten to thirty minutes after transfusion. Temperatures sometimes rose alarmingly high, especially in patients with septicemia.

Sister M. Bernard, R. N., who is in charge of the laboratory at St. Joseph's Hospital, suggested that the reactions might be due to the rubber tubing which we used in our transfusions. Until this time it was customary to boil the rubber tubing and all the glassware used in the transfusion for at least thirty minutes. Sister M. Bernard thought we might avoid these severe reactions by using a different method of sterilization for instruments and apparatus used in giving the transfusion. She evolved a new technic which has proved so successful that we use it now altogether. It is



Fig. 1. Full apparatus for collecting blood of donor.



Fig. 2. Taking blood from the donor.

the method of steam sterilization. The technic for sterilization of apparatus for intravenous infusions by the gravity method follows:

About four feet of tubing of pure gum rubber is immersed in a basin of weak sodium hydroxide solution. After being in this solution for about four hours it is thoroughly rinsed with clear water, then attached to a hot water faucet where continuous running water for one hour helps to remove the grayish substance found on the inside as well as the outside of all new rubber tubing. Following this, the tubing is placed in a boiling water bath for eight minutes and is again thoroughly washed



Fig. 3. Stirring the citrated blood gently. Vessel is standing in pail of hot water to keep blood warm.



Fig. 4. Full apparatus for giving blood to patient.

and rinsed. This procedure is repeated three successive times.

Now the tubing is ready to be fastened securely to a 700 c.c. "Vitax Kelly Infusion Jar" and a Luer-Kauffman syringe. About eight ounces of distilled water is allowed to run through this apparatus. After all the distilled water is drained out the apparatus is neatly placed in a deep dressing tray. Needles of 2 gauge and a small forcep are also placed in this tray. A towel is used to cover the outfit and it is carefully wrapped in a square piece of muslin. It is then put in the autoclave and sterilized for about fifteen minutes under fifteen pounds steam pressure.

This same apparatus may also be used for a blood transfusion (indirect method). The rubber tubing is prepared and sterilized in the same manner as described above. When preparing this tray for a



Fig. 5. Giving blood to the patient.

blood transfusion the following instruments are added: four mosquito forceps, one knife handle, one pair of small surgical scissors, one thumb forcep, one needle holder, one trocar, two small round surgical needles, one 2 c.c. syringe and needle, one small medicine glass, one rubber tourniquet. An 800 c.c. graduated Pyrex glass container and a glass stirring rod are sterilized separately.

After giving an intravenous infusion or a blood transfusion the apparatus is thoroughly washed with ordinary tap water and rinsed with eight ounces of distilled water. It is again placed, with needles and forceps, in the tray and sterilized as before.

This method lays stress upon simplicity. The donor's arm is scrubbed with soap and water from wrist to shoulder, then washed with alcohol. A tourniquet is then applied. A few drops of novocain solution are injected into the elbow region over the most prominent vein. A small incision is made with the bistoury through the wheal in order to overcome the resistance of the skin against the introduction of an ordinary large-size hollow needle. The blood then comes out in a stream and is collected in the vessel with the citrate solution. The two ounces of citrate of soda solution are merely arbitrary. We have found that there are many donors whose blood has a greater tendency to clot than that of other donors. In such cases we often add more citrate of soda solution to the blood. We have never seen any bad effects from doing this. In case our efforts fail to introduce the rather large-size needle into the vein of a donor, we do a simple phlebotomy and let the blood run over the well-cleansed arm of the patient into the vessel. The blood is now carried to the patient's arm and is given as a regular intravenous infusion. The height of the vessel containing the blood should be regulated according to the speed with which the blood seems to enter the vein of the patient. In other words, when blood shows a tendency to clot the vessel should be raised higher. In case the patient complains of a fullness in the chest or tingling of the lips and fingers the vessel should be lowered.

The first transfusion should always be of moderate size (from six to eight ounces of blood), especially in septic cases. If this transfusion is well tolerated by the patient the amount of blood may safely be increased to eighteen ounces at the next transfusion.

Following this technic we had no severe reactions after the transfusions. There were no chills. The highest rise of temperature was 2.8 degrees. The average rise of temperature was .6 degree. In several septic cases there was a fall of temperature after the transfusion.

Van Ravenswaay Clinic.

STUDIES OF DISEASES OF LYMPHOID AND MYELOID TISSUES: VI. TREATMENT OF MALIGNANT NEUTROPENIA WITH PENTOSE NUCLEOTIDES

The nucleotide used by HENRY JACKSON, JR., FREDERIC PARKER, JR., JAMES F. RINEHART and F. H. L. TAYLOR, Boston (Journal A. M. A.), is prepared by the usual method of alkaline hydrolysis at room temperature, according to the technic of Jones and Perkins. The solution, after hydrolysis is complete, is made acid with acetic acid and the crude nucleotide precipitated as the lead salt, which in turn is decomposed with hydrogen sulphide and the filtrate containing the purified nucleotide is evaporated under diminished pressure at a maximum temperature of 50 C. to a small volume and neutralized with sodium hydroxide. From the resulting concentrated solution, sodium nucleotide is removed by absolute alcohol and dissolved in distilled water, and sufficient tricesol is added to make a 0.3 per cent solution. After it has stood in an icebox for two weeks the pH is adjusted to 7.0 and the solution is run through a Berkefeld filter directly into small, sterile ampules. This preparation has been designated as "Nucleotide K 96." Twenty patients with malignant neutropenia of varied etiology were treated with intramuscular and intravenous injections of this preparation. In fourteen of these twenty cases, recovery took place. Clinical and hematologic improvement occurred quite consistently about five days after treatment was begun. The authors believe that these nucleotides may have a definitely favorable effect on an inactive bone marrow in certain cases of malignant neutropenia and that the substance is worth further trial in such cases. The material is apparently of no benefit in leukemia or sepsis without neutropenia and leukopenia.

ADVANTAGES OF INTUBATION METHOD OF INTRODUCING IODIZED OIL FOR BRONCHOGRAPHY IN CHILDREN

SAMUEL IGLAUER, Cincinnati (Journal A. M. A.), enumerates the advantages of the intubation method of introducing iodized oil for bronchography in children as follows: 1. It is a simple and safe procedure which can be carried out in the office as well as in a hospital. 2. It can be used in children by any physician who has mastered the art of intubation and does not require a trained corps of assistants. 3. Combined with fluoroscopy, it affords a visual method of bronchography with the entire lung field under observation during the injection. Confusing injection of the alveoli can be minimized or avoided and sharp images can be obtained. 4. A diagnosis can frequently be made during the fluoroscopy. The injection of iodized poppy-seed oil into the bronchi clearly demonstrates many lesions which are obscure in the ordinary roentgenogram. Studies in recent years have demonstrated that many chronic pulmonary diseases begin during childhood. Early diagnosis is of great importance if any marked progress is to be made in the treatment of non-tuberculous pulmonary infections in children. Of the various methods available for bronchography in children, the use of the intubation tube is the most practical, especially since it can be carried out by any physician who can perform intubation. Bronchography and fluoroscopy should be carried out at the same time. If positive bronchographic results are obtained, it is usually advisable to examine the bronchi with the bronchoscope before beginning treatment.

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JULY, 1932

EDITORIALS

WARREN LOGAN ALLEE, M.D.

PRESIDENT-ELECT, MISSOURI STATE MEDICAL
ASSOCIATION, 1932-1933

Dr. W. L. Allee, Eldon, was chosen by the Missouri State Medical Association at the Jefferson City Session to serve as President-Elect during 1932-1933 and as President during 1933-1934.

Dr. Allee is inherently well fitted to become the President of the Association. He is a native Missourian and the son, not only of a physician but of a physician who in 1907 presided at the Springfield Session of the Association, the late Dr. W. S. Allee, of Olean. Our President-Elect followed in his father's footsteps in entering the medical profession and the Association has voted that he has followed the footsteps of his father and of many others in loyalty and earnest endeavor in the advancement of organized medicine.

Dr. Allee was born in Olean, Missouri, in 1882, one of a family of four sons: Dr. Allee; Colonel Gail D. Allee, also a physician, but for some years a member of the Regular Army and now in charge of Whipple Barracks, Prescott, Arizona; Rea Allee, Kansas City, and Priest Allee, Olean.

Dr. Allee attended the public school in Olean and later the Iberia Academy at Iberia, Missouri. After two years of academic work at the University of Missouri he entered the Marion Sims-Beaumont School of Medicine, St. Louis. In 1903 this school became the St. Louis University School of Medicine and from that school Dr. Allee received his doctorate in 1906. He served as an intern at the Missouri, Kansas and Texas Hospital at Sedalia and studied for six months at the New York Post Graduate School in New York City.

Soon after the completion of his medical studies Dr. Allee began practice in Eldon. His

alliance with organized medicine followed closely after the opening of his practice and he has ever been an earnest and efficient member of the Miller County Medical Society and the State Association. He was vice president of the Miller County Medical Society in 1925, alternate to the Annual Session in 1920, delegate in 1922 and 1923, member of the Committee on Public Policy of the Association since 1928 and Chairman since 1929, and Councilor of the Eighteenth District since 1926.

During the World War Dr. Allee was in the Medical Department of the Base Hospital at Camp Pike, Arkansas, with the rank of lieutenant.

The while he gave conscientious attention to his practice and untiring effort to the medical society, Dr. Allee found time to become a progressive citizen. He holds offices in several civic organizations; is a director of the Lake of the Ozarks Improvement and Protective Association; a trustee of Christian College, Columbia; chairman of the executive committee of American Legion Post No. 229, and vice president of the Bank of Eldon. He is a charter member of the St. Louis University School of Medicine chapter of Phi Beta Phi.

Dr. Allee was married to Miss Maude Franklin in 1906. To them have been born two children, a daughter, Laura, who was graduated from Christian College this spring, and a son, James, who was graduated this spring from Washington University School of Medicine.

Dr. Allee has earned the confidence and esteem of the profession by his prompt and discerning handling of problems which have confronted him as chairman of the Committee on Public Policy, as Councilor of his district and as a member of the Association. His geniality and fair dealing have won him the love of his colleagues. Dr. Allee has proved an understanding of Association work and his ability to progress harmoniously. Members of the Association look forward to a year of continued success and accomplishment under his leadership.

THE JEFFERSON CITY SESSION

The 75th Annual Session of the Missouri State Medical Association convened in Jefferson City, May 23 to 26, with the largest registration in recent years. Four hundred ninety were in attendance.

The scientific program evoked an unusual amount of interest and was interspersed with much discussion. There were sixty pa-



WARREN LOGAN ALLEE, M.D.

ELDON

President-Elect, 1932-1933

pers listed and only two were read by title. Governor Caulfield opened the scientific session by a short address of welcome. President Harrison conducted the sessions in a most creditable manner.

Dr. Joseph Grindon, St. Louis, Vice President, contributed an article which must become a permanent source of information about certain members and about the development of medical science since 1849. The title of his paper which was read at one of the general sessions was "A Retrospect of Eighty-Three Years; Celebrating the Seventy-Fifth Annual Session of the Missouri State Medical Association." Though necessarily brief in describing the activities of members now deceased and in sketching the events that form landmarks in our progress, Dr. Grindon's paper is truly *multum in parvo*.

The innovation this year of scientific exhibits was extremely successful. The exhibits were extensive and discriminatingly chosen and were well displayed for the visiting physicians to gain the greatest value from them. Those in charge of the exhibits received many commendations for their work and cooperation and many physicians expressed the desire that this be a part of the session each year.

Dr. J. S. Summers, Chairman of the General Committee on Arrangements, and his co-workers were attentive to the needs of the members and gave every assistance in making our visit pleasant and agreeable. To Dr. Summers, however, must go the largest need of praise. The many calls upon his time and good nature in order to complete the arrangements for the smooth progress of the proceedings he met with a splendid spirit of ready cooperation.

All our guest speakers were present and delivered addresses that were highly instructive. The open meeting on Tuesday night was well attended and many laymen were in the audience. The reception given by Mrs. Anna Tweedie for her house guest, Dr. E. H. Cary, President of the American Medical Association, was a delightful occasion and attracted a large number of the members and their wives. Other entertainments were furnished by the convicts at the prison and by women prisoners at the prison farm. The motion talking picture of the Bagnell Dam was most interesting. A visit to the Dam was not feasible because the road was under construction but the picture showed more of interest than one could have seen in a short visit to the Dam.

In the House of Delegates the Standing Committees reported satisfactory progress. One important action by the House of Delegates was the creation of St. Louis County in-

to an independent councilor district—the Thirtieth District. This was done upon the recommendation of Dr. B. Kurt Stumberg, St. Charles, Councilor of the Eighth District which included St. Louis County. Dr. Stumberg called attention to the rapid growth of the county in general population and in medical population and the very commendable activity of St. Louis County Medical Society. Dr. R. B. Denny, Creve Coeur, was elected councilor for the new district.

Upon recommendation of Dr. R. L. Thompson, St. Louis, Councilor of the Twentieth District, the House transferred Franklin County from the Twentieth District to the Eighth District where it properly belongs, being contiguous to St. Charles County.

Economy was naturally a topic of considerable interest among the delegates. The Council was mindful of this situation and when the usual committee of three was appointed to audit the accounts of the Secretary and the Treasurer several members from the general membership were added as advisory members of the Auditing Committee. The committee had before it the reports of the certified public accountants, Messrs. Kessler, Cartall and Company, for the years 1930 and 1931, and scrutinized the books of the Secretary and of the Treasurer with the view of adjusting the budget to meet present conditions. It was disclosed at this meeting of the committee that the Secretary had already put into operation economies that would reduce the expenditures by about \$200 per month. The committee recommended certain changes in the budget which will further reduce expenses. It was seen that while the income for the next twelve months would probably be somewhat less than in previous years the economies already put into operation with the reduced budget would offset any expected lessening of income.

The House of Delegates was favored with a very interesting description of the activities of the Woman's Auxiliary by Mrs. A. B. McGlothlan, St. Joseph, retiring President of the Woman's Auxiliary to the American Medical Association, and a short talk by Mr. J. W. Becker, St. Louis, Secretary of the Missouri Tuberculosis Association, lauding the State Medical Association for its cooperation in the formation of the Missouri Tuberculosis Association twenty-five years ago and giving a short description of the work of the Tuberculosis Association.

The following officers were elected to serve from May, 1932, to May, 1933:

President-Elect, Dr. W. L. Allee, Eldon.

Vice Presidents, Drs. Elsworth S. Smith,

St. Louis; O. S. Gilliland, Kansas City, and R. W. Hogeboom, Springfield.

Secretary-Editor, Dr. E. J. Goodwin, St. Louis (reelected).

Treasurer, Dr. G. W. Hawkins, Salisbury (reelected).

Delegates to the American Medical Association, Drs. Jabez N. Jackson, Kansas City; A. R. McComas, Sturgeon, and W. M. West, Monett. Alternates, Drs. E. H. Skinner, Kansas City; H. L. Kerr, Crane, and A. H. Marshall, Charleston.

Kansas City was selected as the place of meeting in 1933.

ST. LOUIS MEDICAL SOCIETY GOES ON THE AIR

The St. Louis Medical Society in cooperation with Radio Station KMOX is presenting each Tuesday morning at 10 o'clock a talk on the general subject "Your Health." These talks are planned as an educational program to furnish the radio audience with information on some of the more important problems which face the health officer and the practitioner of medicine. The talks are prepared by members of the Medical Society and are approved by the Society before broadcasting.

The initial broadcast was given on May 31 on the subject of "The Menace of Malnutrition," or imperfect nutrition. Among the things discussed in that broadcast were the old-fashioned breakfast, the model breakfast, sleep, excessive fatigue, the tables of height and weight and the lack of intelligent parental control of children's diet with reference to feeding children what is good for them rather than what they prefer.

The second of the series was presented on June 7 on "This Matter of Reducing." It was pointed out that beauty is a result of good health and that anything which undermines good health will eventually destroy beauty because it strikes at the very root. The danger of an unbalanced diet in an effort to stay thin was also discussed.

The broadcast on June 14 was on "Rabies." The speaker pointed out that contrary to the usual belief the disease in dogs occurs at all times of the year but more persons are bitten during the summer months because at that season more men, women, children and dogs are out of doors and on the streets. He also described how this malady can be completely stamped out.

"Eye Injuries and the Importance of Immediate Competent Treatment" was the subject of the broadcast on June 21.

The Society feels that the present tendencies in social and economic life have made it desirable that the medical profession, as the guardians of the public health, should become more articulate in its relation to the public. As the recognized reputable medical organization, the St. Louis Medical Society feels that it is a duty it owes the public to broadcast these health talks. The name of the member giving the talk is not announced but listeners are assured that the speaker is a member of the Medical Society and is thoroughly familiar with the topic he is discussing. The member delivering the talk speaks not for himself but for the profession. These talks bring to the public the fruits of many men's labors in the field of the prevention of disease and are an attempt to give the public some idea of the methods which are being employed to prevent and to cure disease.

Comments on each talk have been invited and the Society has been gratified by the number and character of the responses which have shown that the public is appreciative of this endeavor of the Society.

NEW ORLEANS SESSION OF THE AMERICAN MEDICAL ASSOCIATION

The New Orleans Session of the American Medical Association which convened May 9 to 13 was one of outstanding merit. The number of physicians attending was below the hoped-for registration but there was no lack of enthusiasm or earnestness.

The session followed the routine of former meetings opening with a session of the House of Delegates, exhibits and clinical lectures on Monday. On Tuesday the various sections opened their scientific sessions.

The sessions of the House of Delegates were well attended and various discussions and resolutions were considered by the House along with the routine business. The House gave special attention to questions of legislative action, particularly concerning the care of veterans and the question of infant and maternal mortality. Other discussions in the House were concerned with the site of the Surgeon General's Library, closer cooperation between the county society and the American Medical Association, birth control, assistance to small hospitals in raising their standards and the proposed legislation to reduce the number of medical officers in the United States Army.

Dr. E. Starr Judd, Rochester, Minnesota, President, in his presidential address, gave the function of the members of the medical pro-

fession as threefold: First, to advise, treat and care for those who are in need of their services; second, to plan and direct programs of preventive medicine and public health, and third, to protect the public in every manner possible against the activities of insufficiently educated or dishonest practitioners. He discussed the importance of graduate training for physicians and of regulation of specialization and stressed the advisability of hospitalization of veterans in civilian hospitals.

Dr. Edward H. Cary, Dallas, in his address as President-Elect, advised the appointment of a committee to cooperate with the Bureau of Medical Economics to study and aid in reconciling the conflicting lay views of the practice of medicine. He praised the work being done in postgraduate instruction and urged that this activity be enlarged.

Dr. Dean Lewis, Baltimore, professor of surgery in Johns Hopkins University School of Medicine and surgeon in chief to Johns Hopkins Hospital, was chosen President-Elect at the closing session of the House of Delegates. Other officers elected were: Vice President, Dr. Rudolph Matas, New Orleans; Secretary, Dr. Olin West, Chicago (reelected); Treasurer, Dr. Austin A. Hayden, Chicago (reelected); Speaker of the House of Delegates, Dr. F. C. Warnshuis, Grand Rapids (reelected); Vice Speaker of the House of Delegates, Dr. A. E. Bulson, Fort Wayne (reelected); member of Board of Trustees, Dr. Arthur W. Booth, Elmira, New York, to succeed Dr. Edward B. Heckel, Pittsburgh, whose term expired, and Dr. Rock Sleyster, Watwatos, Wisconsin (reelected).

The eighty-fourth Annual Session will be held in Milwaukee in 1933.

There were eighty-eight Fellows from Missouri in attendance, sixteen of whom delivered addresses in the scientific sessions and eighteen took part in discussions. Those who delivered addresses and the titles of the papers follow:

Drs. Clinton W. Lane and C. Malone Stroud, St. Louis, "Pyoderma Gangrenosum, With Report of an Unusual Case."

Dr. John R. Caulk, St. Louis, "Author's Cautery Punch Operation Continues to Reduce the Necessity for Prostatectomy."

Dr. Edwin C. Ernst, St. Louis, "Radiologic Research: Its Significance in Medicine."

Drs. Ira H. Lockwood and Wendell Stewart, Kansas City, "A Roentgen Study of the Physiologic Changes in the Mammary Gland."

Drs. John Green, Jr., and Carl C. Beisbarth, St. Louis, "Inexpert Refraction."

Dr. L. W. Dean, St. Louis, "Laboratory In-

vestigation as an Aid in Otolaryngologic Diagnosis."

Dr. M. F. Arbuckle, St. Louis, "The Use of Radon Seeds in the Field of Otolaryngology and Endoscopy, With Case Reports."

Dr. O. Jason Dixon, Kansas City, "A Departure in the Management of Thrombophlebitis on Experimental Studies in the Dog."

Dr. J. L. Myers, Kansas City, "Electrocoagulation of Tonsils."

Drs. Hugh L. Dwyer and Frank C. Neff, Kansas City, "Complemental Feeding in the New-Born: Its Effect on Breast Feeding."

Dr. Herman Chor, St. Louis, "Nerve Degeneration in Poliomyelitis: Changes Observed in Motor Nerve Endings."

Those taking part in discussions were Drs. Thomas G. Orr, Ira H. Lockwood and N. F. Ockerblad, Kansas City; Dr. Joseph E. Wheeler, Jefferson Barracks; Drs. John R. Caulk, C. Malone Stroud, M. F. Engman, Jr., Ernest Sachs, Arthur W. Proetz, Paul R. Nemours, Meyer Wiener, Grandison D. Royston, Vilray P. Blair, O. P. J. Falk, Roland Hill, Archer O'Reilly, L. R. Sante and Willard Bartlett, Jr., St. Louis.

NEWS NOTES

Idaho is announced as the first western state to combat bovine tuberculosis successfully.

Formosa is the only country where drug addicts can be forced by law to take a withdrawal cure.

In Egypt, where a woman who works for the public loses her social standing, there is only one school of nursing.

The death rate among opium smokers is very much greater than the average death rate for the population at large.

Eggs are better than a spring tonic because of the iron, vitamins and protein they contain, advises the United States Bureau of Home Economics.

The seriousness of traffic accidents is illustrated by a comparison of traffic accident figures with World War losses: 50,510 American soldiers were killed in the eighteen months of fighting in the World War while 53,650 persons were killed in automobile accidents in the United States in the eighteen months ending December 31, 1931.

Dr. Otto H. Schwarz, St. Louis, was elected secretary of the American Gynecological Society at the annual meeting of the society which was held in Quebec, Canada, from May 30 to June 1.

With better health for all rural people as the goal the United States Public Health Service is conducting a study in which a thousand southern country families are serving as "laboratory subjects." The survey will include information on general social and economic data, sanitary conditions of the premises, present state of health of the members of the family, illness during the last twelve months and medical service received.

The American Board of Ophthalmic Examinations will hold an examination in Montreal, Canada, on September 19, 1932, at the time of the meeting of the American Academy of Ophthalmology and Otolaryngology.

Necessary applications for this examination can be procured from the Secretary, Dr. William H. Wilder, 122 South Michigan Avenue, Chicago, and should be sent to him at least sixty days before the date of the examination.

The St. Louis Pure Milk Commission conducted members of the St. Louis Medical Society on a survey of the Pevely Certified Dairy Farm, Crescent, Missouri, on June 19, and the Pevely Dairy Company entertained with a barbecue picnic. Tours of inspection of the dairy were made every fifteen minutes, while exhibits of interest to physicians and contests furnished entertainment. About 1000 persons, physicians, their wives and friends were entertained. Dr. Paul J. Zentay, St. Louis, is secretary of the St. Louis Pure Milk Commission.

The following articles have been accepted for New and Nonofficial Remedies:

Abbott Laboratories

Tincture Metaphen 1:200

Eli Lilly & Co.

Solution Liver Extract No. 343

Ampoules Solution Liver Extract No. 343, 10 c.c.

E. R. Squibb & Sons

Ampules Iodobismutol, 2 c.c.

The following article has been exempted and included with the List of Exempted Medical Articles (New and Nonofficial Remedies, 1931, p. 477):

Lederle Laboratories, Inc.

Sterile 1-1000 Solution Epinephrine Hydrochloride

Motion pictures of the circulation in the blood vessels which nourish the heart muscle itself were shown by Drs. R. L. Stehle and K. E. Melville of McGill University, Montreal, at the meeting of the Federation of American Societies for Experimental Biology held in Philadelphia in April. The pictures were made in connection with research attempting to determine whether the blood flows into the coronary vessels when the blood is pumped out of the heart chambers into the rest of the body, or when the heart is expanded to receive the blood from the body.

The medical service committee of the St. Joseph Welfare Board has completed a rearrangement of medical service increasing the clinical staff to meet the present heavy demand for free medical care. Several divisions have been added making the present special clinics include prenatal, medical, surgical, ear, eye, nose and throat, pediatrics, internal medicine, dermatology, urology, proctology, orthopedics, gynecology and dentistry. Dr. George A. Johns, superintendent of State Hospital No. 2, will act as consultant in psychiatry. The physicians connected with the clinics are Drs. T. L. Howden, Owen W. D. Craig, S. Earl Senor, J. H. Ryan, M. H. Talty, A. H. Muench, James O'Donoghue, W. Roger Moore, J. M. Hughes, A. J. Smith, Jenner G. Jones, Daniel Morton, W. T. Stacy, F. J. Berney and L. G. Balding. Twenty-nine dentists will work in rotation in the dental clinic.

One fourth of the sufferers from the general paralysis type of insanity have been practically cured and restored to former occupations when treated with malaria, the United States Public Health Service announced in giving details of a new program of study of the treatment.

Over ten thousand cases have been reported in the medical literature since 1917 when Professor von Jauregg, of Vienna, began to treat paresis with artificially inoculated malaria. A study of these reports shows that about 25 per cent of patients have been practically cured and returned to their homes and jobs. Before the malaria treatment only 1 or 2 per cent of the patients had complete remissions and patients died within three or four years.

The United States Public Health Service is cooperating with the State Hospital at Columbia, South Carolina, in this investigation. The development of reliable and simple methods of infecting the patients with malaria will be attempted and the growth of the fever-producing organisms in cultures will be studied as well as the transportation of mosquitoes.

The United States Civil Service Commission announces an open competitive examination for medical technician (bacteriology and roentgenology). Applications must be on file with the United States Civil Service Commission at Washington, D. C., not later than July 19, 1932. The examination is to fill vacancies in the United States Public Health Service at Philadelphia and Pittsburgh, Pennsylvania, and vacancies occurring throughout the United States in positions requiring similar qualifications. Competitors will not be required to report for examination at any place but will be rated on their education, training and experience. Full information and application blanks may be obtained at the post office or customhouse in any city or from the United States Civil Service Commission, Washington, D. C.

Dr. Kenneth Coonse, Columbia, was elected by the Committee on Scientific Exhibits to head a group of exhibitors for a fracture demonstration including methods of treatment at the Jefferson City Meeting. It was at his request that Drs. Frank D. Dickson, C. B. Francisco and R. M. Schaufler, of Kansas City, and Drs. C. H. Crego, J. Albert Key, M. L. Klinefelter and Archer O'Reilly, of St. Louis, gave their services and advice in making the exhibit an outstanding feature of the Jefferson City Meeting. It is regretted that in the printed program Dr. Coonse's name did not appear in its proper relation as chairman of the entire fracture and orthopedic division of the scientific exhibits.

The work of the Red Cross Venereal Clinic in St. Joseph was recently stopped because the city council did not appropriate the \$4,000 needed for continuance of the clinic through the next twelve months. Six hundred patients were receiving treatment at the time the clinic closed. The records of the work of the prenatal division of the clinic reveal that one woman of every eighteen examined had syphilis. Dr. W. F. Stacy, who is in charge of this phase of the work, estimated that 85 per cent of the cases of congenital syphilis have resulted in normal and healthy children where prenatal treatment had been given and was continued after birth. Many preschool children were under treatment in the clinic.

The executive board of the Red Cross is attempting to get the councilmen to reconsider the question and appropriate funds for continuance of the clinic. The St. Joseph Red Cross chapter has diverted a portion of its funds each year to the venereal clinic.

Drs. Alphonse McMahon, August A. Werner and Charles Hugh Neilson, of St. Louis, were guests of the St. Claire (Illinois) County Medical Society at Belleville, Illinois, on June 2. Dr. McMahon addressed the society on "Physical Types of Endocrine Disorders"; Dr. Werner discussed "The Effect of Theelin on the Castrated Woman," and Dr. Neilson spoke on "Advances in Therapy of the Endocrines."

New light on the relative importance of heredity and environment as factors causing certain types of mental disease and juvenile delinquency and criminal tendencies may be gained as a result of a study of identical and non-identical twins being conducted at the University of Southern California by Dr. Aaron J. Rosanoff, Los Angeles.

Records of 404 pairs of twins have been obtained and a total of one thousand pairs with mental diseases is being sought by the scientist. This is believed to be the largest collection of such records ever gathered. A preliminary report of the data now available will be published in a forthcoming issue of *Eugenical News*.

Of those twins that were of the same sex, probably with origin in a single ovum and therefore with the same hereditary equipment, there were 116 pairs in which both twins were affected and only fifteen pairs with but one individual affected, it was found by Dr. Rosanoff.

An entirely different picture is presented by the group containing twins of opposite sex and therefore of probable origin in separate ova with different heredity. In these, both twins were affected in twenty-six pairs and only one member was involved in seventy-five pairs.

Of the twins of the same sex, but probably non-identical, both members were affected in fifty-three pairs and in sixty-seven pairs only one was affected.

The disorders considered included mental deficiency, epilepsy, dementia praecox, manic-depressive psychoses, behavior problems in children, adult crime and juvenile delinquency.

The sixth annual meeting of the Mid-West Hospital Association convened in St. Louis on June 2 and 3. The association is affiliated with the American Hospital Association and includes hospitals in Colorado, Kansas, Missouri and Oklahoma. Among the speakers at the meeting were Dr. Bert W. Caldwell, Chicago, executive director of the American Hospital Association; Dr. Malcolm T. MacEachern, Chicago, director of hospital activities, American College of Surgeons; Mr. Paul

Fesler, Chicago, president of the American Hospital Association; Mr. Mathew O. Foley, Chicago, editorial director of *Hospital Management*, and Dr. C. Rufus Rorem, Chicago, associate for medical science of the Julius Rosenwald Fund.

Among subjects discussed at the session were the application of the insurance principle to the payment of medical and hospital bills; the discontinuance of the construction of war veterans' hospitals and the placing of Federal Government patients in civil hospitals; the importance of community surveys prior to the construction of hospitals, and means of checking the surplus of nurses.

Mr. George Miller, Tulsa, superintendent of the Morningside Hospital, Tulsa, was elected president of the Mid-West Hospital Association and Mr. E. E. King, superintendent of the Missouri Baptist Hospital, president of the Missouri Hospital Association.

The following speakers responded to invitations from the Postgraduate Committee of the State Association to deliver addresses at recent meetings of the component county medical societies:

On March 9 the Johnson County Medical Society had as its guests Drs. J. P. Costello, Llewellyn Sale and Paul C. Schnobelen, of St. Louis. Dr. Costello spoke on "Treatment of Pneumonia in Children"; Dr. Sale addressed the Society on "Treatment of Pneumonia in the Adult," and Dr. Schnobelen discussed "The Correlation of the Clinical and Roentgenological Findings in the Diagnosis of Pneumonia in the Adult and the Child."

Dr. Robert C. Davis, Kansas City, was the guest of the Nodaway County Medical Society at Maryville, March 12, and gave a lecture on "Common Disorders of the Heart; Their Symptoms and Treatment." At the April 8 meeting of the Nodaway County Medical Society in Maryville Drs. A. N. Altringer and John R. Coryell, of Kansas City, were guests. Dr. Altringer spoke on "The Significance of Tonsils and Adenoids," and Dr. Coryell addressed the Society on the subject of "Urethral Stone." On May 13 at a meeting at Maryville, Dr. B. Landis Elliott, Kansas City, delivered an address on "Encephalitis Lethargica" and Dr. Ralph E. Duncan, Kansas City, spoke on "The Modern Use of Oxygen as a Therapeutic Agent."

The St. Francois-Iron-Madison County Medical Society had as its guests on March 22 at Farmington Drs. J. Hoy Sanford and Samuel B. Grant, of St. Louis. Dr. Sanford spoke on "Abdominal Pain With Special Reference to

the Urinary Tract," and Dr. Grant delivered an address on "History Taking and Methods of Examination of Cardiac Patients." On April 21 at a meeting of the Society at Farmington, Dr. A. B. Jones, St. Louis, gave an address on "Acute Disseminated Encephalomyelitis," and Dr. George Ives, St. Louis, spoke on "The Schilling Differential Blood Count: The Diagnosis of Malignancy by Cytology and Effusion; A Case of Coccidioidal Granuloma."

At the April 1 meeting of the Marion County Medical Society at Hannibal, Dr. D. L. Sexton, St. Louis, spoke on "Menstrual Disturbance During Adolescence," and Dr. Francis M. Barnes, St. Louis, delivered an address on "The Importance of Neuropsychiatry in the Practice of Medicine."

Drs. F. C. Helwig and Harold P. Kuhn, of Kansas City, were guests of the Jasper County Medical Society at Joplin on April 12 and Dr. Helwig spoke on "Gallbladder-Liver Syndrome With Especial Reference to Cholecystitis, Hepatitis and Nephritis; Pathological Findings." Dr. Kuhn addressed the Society on "Gallbladder-Liver Syndrome With Especial Reference to Cholecystitis; Clinical Syndrome."

Drs. M. J. Lonsway and Paul F. Kistner, of St. Louis, accepted an invitation to cooperate with the Chariton County Medical Society in conducting a pediatric clinic at Salisbury on April 27 held under the auspices of the Salisbury Council of Clubs.

OBITUARY

CLYDE WEISS HAMLIN, M.D.

Dr. Clyde W. Hamlin, Palmyra, a graduate of Barnes Medical College, in 1911, died March 6, aged 50 years.

Dr. Hamlin had been very active in organized medical work. He was vice president of the Marion County Medical Society in 1922 and 1929, alternate delegate to the State Meeting in 1929, delegate in 1930 and 1931, and president of the Society in 1931 and was re-elected in 1932. He was a Fellow of the American Medical Association.

The Marion County Medical Society at a meeting in Hannibal on April 1, passed the following resolution:

Dr. Clyde Weiss Hamlin, Palmyra, for a number of years a member of the Marion County Medical Society, died March 6, 1932, in the first quarter of his second term as President of the Society, having been reelected at the annual meeting in December, 1931.

In his passing the Society loses one of its most

active and enthusiastic members. His genial presence will be missed. As members of the Society we hereby record our appreciation of the character and capability of our deceased colleague.

The span of human life, brief or long, is but a measured portion of eternity. A half century is a relatively short span. Dr. Hamlin lived and wrought during that period of time, one score of years less than the oftentimes mentioned allotment. Literally yet willingly he gave his life to the community in which he lived and worked. What more may a man do? Yet his life was typical of that of the general practitioner or family physician in practically all similar communities.

Being sociably inclined and public-spirited, much of his vitality was used up in enterprises only indirectly related to his professional calling. The almost continuous expenditures of energy lessened his reserve so that, when serious illness overtook him his natural resistance could not cope with the enemy, death. However, death, viewed as a transition in the eternal plan of things and not as the final end of existence, has its sting softened by the comforting assurance of faith. "Though he were dead, yet shall he live."

The members of the Marion County Medical Society desire to express their condolence to the bereaved family of Dr. Hamlin. In the taking from them of one endeared by ties of closest kinship and most intimate association they suffer irreparable loss.

The Society shall, through its Secretary, present a copy of these resolutions to the family of the deceased, one copy to each of the newspapers of Marion County, one to THE JOURNAL of the State Medical Association and reserve the original for the records of the Society.

J. W. HARDESTY
E. M. LUCKE
H. L. BANKS, Chairman

MOSES B. HARUTUN, M.D.

Dr. M. B. Harutun, Joplin, a graduate of the New York University Medical College, New York City, 1896, died at De Paul Hospital, St. Louis, May 19, following an emergency operation for intestinal obstruction. Early in the week he had been operated on for removal of the gallbladder and his condition had appeared very favorable. He was 65 years old.

Dr. Harutun was born in Aintab, Asia Minor, and came to the United States in his early youth. He worked at any job he could find to gain funds to obtain his education. He received an A.B. degree from the University of Rochester. After completing his medical education he began his practice at Joplin. He rapidly built up his practice and participated very little in public affairs until 1920 when he sought and obtained the office of health commissioner, a position which he held until this spring. Among his accomplishments in this office were better milk campaigns, campaigns for immunization of children against smallpox and diphtheria, a cooperative garbage hauling system, a complete health department

laboratory, a school dental clinic and employment of a nurse to observe preschool children.

Dr. Harutun was an active worker in any enterprise which was to the interest of organized medicine. He was a member of the Jasper County Medical Society and the State Association and a Fellow of the American Medical Association.

Dr. Harutun's death marks a loss not only of a well-loved physician but of an honest, sincere and conscientious citizen.

He is survived by his widow, Mrs. Harriet Harutun, and a brother.

CORRESPONDENCE

CORRECTION IN CANCER SURVEY

St. Louis, May 31, 1932.

To the Editor:

May I call your attention to an error made in the June, 1932, issue of THE JOURNAL. This was made in the report of the Cancer Survey on page 259, second paragraph: "From this supply the needs of City Hospital No. 2, the hospital for colored patients, is supplied, also St. Mary's Hospital and St. Mary's Infirmary."

This statement is incorrect in so far as the supply of radium at the City Hospital cannot be used by St. Mary's Hospital or St. Mary's Infirmary. Patients in these institutions where radium is not available can be transferred to the City Hospital.

The radium at the City Hospital is for the use of municipally owned institutions only. These are City Hospital No. 1, City Hospital No. 2 (for colored patients), City Hospital No. 3 (tuberculosis division of Isolation Hospital), the City Sanitarium, the St. Louis Training School, the Isolation Hospital, the Infirmary and Robert Koch Hospital.

L. R. SANTE, M.D.

DIAGNOSTIC SIGNIFICANCE OF HEMATEMESIS

According to Andrew B. Rivers and Dwight L. Wilbur, Rochester, Minn. (Journal A. M. A., May 7, 1932), the source of hematemesis may usually be determined with accuracy if data, obtainable through a detailed anamnesis, careful general examination and systematic laboratory data, are carefully evaluated. The most common cause of hematemesis will be found in intrinsic gastric duodenal or jejunal lesions. Peptic ulcer is by far the most common cause of this symptom. It is well to remember that indigestion and hemorrhage usually mean an intrinsic gastro-intestinal lesion. Diseases in which varices are likely to develop are next in importance in the production of hematemesis; they accounted for 5.5 per cent of the 668 cases of the author's series. Vomiting of blood is a rare complication in blood dyscrasia, and the recognition of such diseases is usually accomplished without much difficulty. Surgical exploration seems the advisable procedure in cases of repeated hemorrhage when there is no evidence of blood dyscrasia or of hepatic or splenic disease. In practically all such cases the bleeding is explainable on the basis of an intrinsic gastroduodenal lesion.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL
FOR 1932(UNDER THIS HEAD WE LIST SOCIETIES WHICH
HAVE PAID DUES FOR ALL THEIR MEMBERS)

HONOR ROLL

Ste. Genevieve County Medical Society,
December 16, 1931.Miller County Medical Society, Decem-
ber 23, 1931.Mercer County Medical Society, Decem-
ber 24, 1931.Camden County Medical Society, January
5, 1932.Johnson County Medical Society, Janu-
ary 20, 1932.Dent County Medical Society, January 22,
1932.Macon County Medical Society, February
10, 1932.Webster County Medical Society, March
21, 1932.Platte County Medical Society, April 7,
1932.Pulaski County Medical Society, April 8,
1932.Schuyler County Medical Society, April
14, 1932.Ralls County Medical Society, April 22,
1932.Wright-Douglas County Medical Society,
April 26, 1932.Barry County Medical Society, May 2,
1932.Chariton County Medical Society, May
5, 1932.

MISSOURI STATE MEDICAL ASSOCIATION

Seventy-Fifth Annual Session, Jefferson City
May 23, 24, 25, 26, 1932

MINUTES OF THE HOUSE OF DELEGATES

Junior College, Monday, May 23, 1932

Morning Session

The first meeting of the House of Delegates of the Seventy-Fifth Annual Meeting of the Missouri State Medical Association, held at the Junior College, Jefferson City, convened at 9:50 a. m., Monday, May 23, 1932, the President, Dr. J. F. Harrison, Mexico, presiding.

THE PRESIDENT: Fellow-members of the Missouri State Medical Association, this is the Seventy-Fifth Annual Meeting of our Association. We are older than seventy-five years, but this is the Seventy-Fifth Annual Meeting because for a few years during the Civil War no meetings were held. In honor of this anniversary the Committee on Scientific Work has provided that during the program we will have one address covering the period in medicine from the time of the first meeting up to the present time. Dr. Joseph Grindon, St. Louis, will make this address.

At roll call one hundred four officers and delegates responded as follows:

Officers

President.....J. F. Harrison, Mexico
President-Elect... Joseph W. Love, Springfield
Vice Presidents... Joseph Grindon, St. Louis; P. D.
Gum, West Plains; B. W.
Hays, Jackson
Secretary-Editor... E. J. Goodwin, St. Louis
Treasurer..... G. W. Hawkins, Salisbury

Councilors

2nd District.....W. T. Elam, St. Joseph
6th District.....J. S. Gashwiler, Novinger
7th District.....H. B. Goodrich, Hannibal
8th District.....B. K. Stumberg, St. Charles
9th District.....A. R. McComas, Sturgeon
10th District.....D. A. Barnhart, Huntsville
11th District.....J. H. Timberman, Chillicothe
12th District.....Spence Redman, Platte City
13th District.....O. S. Gilliland, Kansas City
14th District.....C. T. Ryland, Lexington
15th District.....L. J. Schofield, Warrensburg
16th District.....J. T. Hornback, Nevada
17th District.....Guy Titsworth, Sedalia
19th District.....J. S. Summers, Jefferson City
20th District.....R. L. Thompson, St. Louis
21st District.....N. W. Jarvis, Festus
22nd District.....U. P. Haw, Benton
23rd District.....J. B. Luten, Caruthersville
24th District.....F. L. Kneibert, Poplar Bluff
25th District.....W. W. Johnston, Farmington
26th District.....W. H. Breuer, St. James
27th District.....J. C. B. Davis, Willow Springs
28th District.....W. M. West, Monett
29th District.....R. M. James, Joplin

Delegates

COUNTY	DELEGATE
Adair.....	E. S. Smith, Kirksville
Atchison.....	E. B. Kenner, Wcntzville
Audrain.....	Fred Griffin, Mexico
Barry.....	W. M. West, Monett
Boone.....	Frank G. Nifong, Columbia
Buchanan.....	J. F. Owens, St. Joseph
Buchanan.....	J. T. Stamey, St. Joseph
Butler.....	F. L. Kneibert, Poplar Bluff
Callaway.....	R. N. Crews, Fulton
Cape Girardeau...	B. W. Hays, Jackson
Carter-Shannon...	T. W. Cotton, Van Buren
Cass.....	B. O. Hartwell, Drexel
Chariton.....	F. L. Harms, Salisbury
Christian.....	R. R. Farthing, Ozark
Cole.....	James Stewart, Jefferson City
Gasconade-	
Maries-Osage...	M. E. Spurgcon, Red Bird
Greene.....	Paul F. Cole, Springfield
Greene.....	H. A. Lowe, Springfield
Grundy.....	U. C. Weston, Galt
Howell-Oregon-	
Texas.....	P. D. Gum, West Plains
Jackson.....	A. J. Welch, Kansas City
Jackson.....	Kerwin Kinard, Kansas City
Jackson.....	Andrew W. McAlester, Sr., Kan- sas City
Jackson.....	James R. McVay, Kansas City
Jackson.....	Harry L. Jones, Kansas City
Jackson.....	E. Lee Miller, Kansas City
Jackson.....	Tom Twyman, Kansas City
Jackson.....	H. L. Hess, Kansas City
Jackson.....	G. Wilse Robinson, Sr., Kansas City
Jackson.....	Jabez N. Jackson, Kansas City
Jasper.....	L. B. Clinton, Carthage
Jasper.....	L. C. Chenoweth, Joplin

Jefferson.....C. E. Fallet, DeSoto
 Lafayette.....O. Liston, Oak Grove
 Lawrence-Stone...E. E. Glenn, Mount Vernon
 Lewis.....P. W. Jennings, Canton
 Linn.....J. Lane Evans, Brookfield
 Livingston.....H. M. Grace, Chillicothe
 Madison.....W. H. Barron, Fredericktown
 Marion.....W. F. Francka, Hannibal
 Miller.....E. C. Shelton, Eldon
 Mississippi.....A. H. Marshall, Charleston
 Moniteau.....J. P. Burke, Jr., California
 Pemiscot.....J. B. Luten, Caruthersville
 Pettis.....A. E. Monroe, Sedalia
 Phelps.....S. L. Baysinger, Rolla
 Pike.....T. H. Wilcoxon, Bowling Green
 Platte.....H. M. Clark, Platte City
 Pulaski.....C. M. Mallette, Crocker
 Randolph-Monroe.C. H. Dixon, Moberly
 St. Charles.....A. P. E. Schulz, St. Charles
 St. Francois-Iron.H. M. Roebber, Bonne Terre
 Ste. Genevieve...A. E. Sexauer, Ste. Genevieve
 St. Louis.....C. P. Dyer, Webster Groves
 St. Louis.....O. W. Koch, Clayton
 St. Louis City...C. E. Hyndman, St. Louis
 St. Louis City...A. H. Diehr, St. Louis
 St. Louis City...W. E. Leighton, St. Louis
 St. Louis City...W. T. Coughlin, St. Louis
 St. Louis City...E. Schisler, St. Louis
 St. Louis City...R. S. Kieffer, St. Louis
 St. Louis City...H. S. Langsdorf, St. Louis
 St. Louis City...Joseph Peden, St. Louis
 St. Louis City...E. C. Funsch, St. Louis
 St. Louis City...C. W. Thierry, Jr., St. Louis
 St. Louis City...F. C. E. Kuhlman, Webster Groves
 St. Louis City...Francis Reder, St. Louis
 St. Louis City...W. J. Gallagher, St. Louis
 St. Louis City...Walter Baumgarten, St. Louis
 St. Louis City...H. M. Moore, St. Louis
 St. Louis City...W. C. Gayler, St. Louis
 St. Louis City...F. C. Simon, St. Louis
 St. Louis City...V. V. Wood, St. Louis
 Saline.....F. A. Howard, Slater
 Vernon-Cedar...L. L. Cooper, Nevada
 Wright-Douglas..R. M. Norman, Ava

THE PRESIDENT: Before we proceed further with the regular order of business it will be our pleasure to hear from Mrs. A. B. McGlothlan, St. Joseph, retiring President of the Woman's Auxiliary of the American Medical Association. I am sure she will have an interesting message.

Mrs. McGlothlan delivered an address on "The Work of the Woman's Auxiliary."

Dr. W. T. Elam, St. Joseph, moved that the address by Mrs. McGlothlan be referred to the Reference Committee on Miscellaneous Affairs. Seconded by Dr. James Stewart, Jefferson City, and carried.

On motion of Dr. Jabez N. Jackson, Kansas City, duly seconded, the reading of the minutes of the previous meeting was dispensed with and adopted as printed in THE JOURNAL.

The President read his message which on motion of Dr. C. H. Neilson, St. Louis, seconded by Dr. W. T. Elam, St. Joseph, was referred to the Council. The message follows:

PRESIDENT'S MESSAGE AND RECOMMENDATIONS

In accordance with the established custom of this Association I submit the following report with recommendations for your consideration:

The affairs of the Missouri State Medical Association have progressed in a quiet and harmonious manner. There

being no legislative session during the year there is nothing to comment on relating to legislative activities.

The Postgraduate Committee has been active and furnished numerous profitable scientific programs in different sections of the state. These meetings result in much good in promoting scientific knowledge and keeping up the general morale of the members.

The Defense Committee has been called upon to render aid in an increased number of suits. We, as individual members, should by our conduct and discretion minimize this now growing evil. Litigation of this character often originates from careless and indiscreet talk on the part of some doctor.

The Committee on Cancer authorized at the 1931 meeting has been appointed and is now functioning.

It is with regret that we note the suspension of the last two years of the medical course by the Missouri State University. We are, however, assured that this will be resumed as soon as feasible.

There has arisen a condition in our state as well as in other states caused by the modern highways and the increased automobile traffic resulting in many accidents. You are all well aware that victims of accidents occurring on the highways are brought into doctors' offices and hospitals at all hours. Often these individuals are not citizens of the state in which the accident has occurred. In a very large percentage of the cases the medical and hospital bills are never paid. The St. Louis Medical Society is at this time conducting a survey by means of questionnaires to determine the extent of this abuse of hospitals and the medical profession.

The economic and medical problems resulting from the United States Government's policy of providing hospital care with medical service for Spanish-American and World War veterans who have disabilities that are not service connected, is a serious one and of vital interest to the medical profession. The Shoulder's resolution which was endorsed by the American Medical Association at the 1931 meeting seems to be the most practical way of dealing with this question. No doubt many of you are familiar with the provisions of this resolution. The salient features are, that the United States Government provide each veteran with a sickness and disability insurance policy which will enable veterans to receive treatment at their respective homes and local hospitals by physicians of their own selection, the insurance being paid by the Federal Government for the duration of the disability thus doing away with further hospital construction for this purpose and the problem of transporting sick veterans to distant hospitals.

The provisions of the Shoulder's bill would in no way change or affect the present arrangement for taking care of World War veterans who have service connected disabilities.

In conclusion I wish to submit the following recommendations for your consideration:

1. That the Postgraduate Committee in arranging scientific programs for county and district meetings, at the same time when practical, arrange at least one meeting to which the general public are to be invited, the purpose of such public meetings being to disseminate public health information by competent speakers from the medical profession in accordance with provisions of the McAlester Memorial Foundation.

2. That the Public Policy Committee be authorized to have drafted a bill or bills for presentation to the next session of the Missouri Legislature with the view of affording better protection to hospitals and members of our profession in the matter of remuneration for service rendered victims of automobile and other accidents.

Such legislation should, I believe, provide that liability insurance as well as all other compensation if any due the patient by reason of personal injury would be subject to a first lien to insure payment of fees and other compensation due physicians and hospitals.

This naturally brings up the matter of compulsory liability insurance which should be coupled with or at least considered in this connection.

Respectfully submitted,

J. F. HARRISON, President

The President announced the appointment of the following reference committees:

Reference Committee on Resolutions

Dr. Fred Griffin, Mexico, Chairman.

Dr. E. Lee Miller, Kansas City.

Dr. L. C. Chenoweth, Joplin.

Reference Committee on Miscellaneous Affairs

Dr. H. M. Moore, St. Louis, Chairman.

Dr. H. A. Lowe, Springfield.

Dr. R. M. James, Joplin.

Reference Committee on Amendments to Constitution and By-Laws

Dr. Jabez N. Jackson, Kansas City, Chairman.

Dr. O. B. Zeinert, St. Louis.

Dr. U. P. Haw, Benton.

Dr. J. S. Summers, Jefferson City, reported for the General Committee on Arrangements, as follows:

REPORT OF THE GENERAL COMMITTEE ON ARRANGEMENTS

All of the general meetings will be held in this auditorium. After today the Woman's Auxiliary will hold their meetings in the room just opposite the entrance; today they will meet at the Missouri Hotel.

There is not much for me to announce because almost everything is on the program. The meeting scheduled for Tuesday evening at seven-thirty will convene at seven o'clock. It is a talking movie, the Lake of the Ozarks, and you will probably see more than if you took the trip to Bagnell Dam.

If anyone wants to play golf you will see the committee and make your arrangements.

On Wednesday the Missouri Alumni Association will meet at the Missouri Hotel at twelve-thirty. No other alumni association has reported up to the present.

There will be the usual dinner for the Secretaries at the Missouri Hotel, Wednesday evening, at six, and following that there will be an entertainment put on for us at the prison. Everyone says it will be a scream. Everybody is invited.

Anyone who has not secured a room should get in touch with Dr. Bruce. If you want a stenographer, you will find one in the hall near the entrance.

The Scientific Exhibit will be in every room on this floor except where the Auxiliary meets, so do not think the display out here is all the Scientific Exhibit. It extends all the way round. The Commercial Exhibit is at the front entrance. These men have taken a lot of time and energy and spent a lot of money to get this exhibit here, and we want everybody to give all the attention they can to it, because we want to have another exhibit next year.

I want to thank the men who helped with this exhibit, and especially Dr. Neal, Dr. Kuhn and Dr. Stewart of the State Board of Health for their hearty cooperation in putting on the Scientific Exhibit.

The Rotary Club invites any member of the Association to their luncheon at twelve-fifteen today at the Missouri Hotel.

The Woman's Auxiliary, I am sorry to say, have their dinner Wednesday night, and it will conflict with the entertainment at the prison. We hoped to have them with us at this entertainment.

We had our choice of the Capitol or this building. We thought this would be more convenient, and since there might be a special meeting of the Legislature called, we came here. Our school board has given us this building free, without any cost except to pay for the things we use.

There is a meeting of the officers of the Missouri State Tuberculosis Association this evening, to which we are invited, to plan a campaign to find out how many tuberculous people there are in the State.

The Secretary, Dr. E. J. Goodwin, St. Louis, read his report as follows:

REPORT OF THE SECRETARY

That membership in the Association is recognized by the progressive and discriminating physician as a privilege that must be maintained is shown in the very slight loss of membership on record on May 1 of this year as compared with the number on May 1 of last year. In 1931 our total membership was 3260; on May 1, this year, the total was 3202, a loss of only 58 members.

As you very well know, many factors of an economical nature in the past twelve months have forced an adjustment of budgets by persons in all walks of life so that expenditures may balance incomes. The stringency of the times is forcing many persons who have enjoyed affiliations with various organized bodies that require a financial contribution, to sever their connection with many of such organizations in order to save the money previously easily and willingly paid out for the privileges enjoyed. How many such organizations have suffered a severe loss in membership I do not know. I mention the matter in order to emphasize the point that physicians so regard their medical affiliation that they lop off their affiliations with other organizations so that they may continue their active membership in our Association.

There has been no dearth of activity at the headquarters of the Association because of the present financial status. The offices continue to be a clearing house of information for the press, chambers of commerce, Better Business Bureau and individuals, seeking knowledge concerning the standing of medical advertising, medical institutes, hospitals and practitioners throughout the state whose activities for one reason or another come within the purview of these organizations. Members of the Association also make frequent inquiries on various questions that they themselves cannot easily solve. We welcome all these inquiries especially those from our members and county societies for we realize that they do not possess the facilities to conduct the investigation that may be required to write from two to a dozen letters to solve the matter to a satisfactory conclusion.

Since the employment of Mr. Elmer H. Bartelsmeyer as Executive Secretary of the St. Louis Medical Society much cooperation between the press and lay organizations in St. Louis has been deflected to the St. Louis Medical Society and Mr. Bartelsmeyer has found it feasible to make personal contact between the Medical Society and lay organizations. Mr. Bartelsmeyer has been instrumental in developing harmonious cooperation between the St. Louis Medical Society and lay bodies which has brought the Medical Society into prominence before the public as the most important scientific medical body in the community.

The activities of the county societies are very commendable. There are a few who feel the loss of practitioners through death and removal whose places are not being filled by new men. This condition has brought about the request for hyphenation of several counties. Last year Madison County was joined with St. Francois-Iron County Medical Society, and this year Livingston and Caldwell Counties have requested a hyphenation of the two counties. This matter has been referred to the Council. If it is accomplished it will make a good working society whereas a separate independence of each would be somewhat of a strain on the members.

There was no session of the State legislature this year, hence no activities in that line.

A number of bills were introduced in Congress on which the American Medical Association invited our cooperation either in support or opposition. A new bill was introduced which perpetuates the activities of the Sheppard-Towner law that ceased to operate by limitation in 1929. A letter was sent to each component society and protests were lodged with our senators and representatives through the Committee on Health and Public Instruction, the county societies, individual members and officers.

Congress passed an act authorizing the Department of the Treasury to cooperate with the examining boards of the various states and boards of health in the suppression or abuse of narcotics. Hitherto, the Department of the Treasury refused to inform departments of health and examining boards concerning the records of addicts, hence there was difficulty in the prosecution of cases in the courts and before licensing boards because of the lack of much evidence possessed by the Department of the Treasury which now is authorized to exchange information on the use and abuse of narcotic drugs with the various states and cooperate with them in these cases.

The plan of placing members who have reached advanced years and practically retired from practice or become incapacitated upon the Honor List is proving satisfactory. We have one hundred and fifty members on this list. Most of them continue to manifest an active interest in county society affairs and to receive THE JOURNAL regularly although they are not required to pay any dues.

To the secretaries of the county medical societies I wish to pay special tribute. The welfare of the entire organization is largely dependent upon the interest that these officers manifest in the work of their local societies and in the State Association work. That we have so many secretaries who sacrifice their convenience and time to writing reports of their meetings for publication in THE JOURNAL and to looking after the interests of their members in various ways is I think a splendid tribute to the loyalty and devotion of these gentlemen to the welfare of the component societies and the State Association. The dinner which the Association provides for the secretaries annually will be given at the Missouri Hotel, Wednesday evening, May 25, at 6 o'clock. It is the earnest desire of the secretaries that the councilors and officers of the Association attend this dinner and lend the encouragement of their presence to the secretaries.

The terms of councilors in the odd numbered districts expire this year as do the terms of three delegates to the American Medical Association.

The financial records of the Secretary's office and the Treasurer's books have been audited by the certified public accountants, Messrs. Kessler, Cartall & Company and found in good condition.

Status of Membership

Number of members, May 1, 1931.....	3,260
New	125
Reinstated	45
	<u>170</u>
Total	3,430
Resigned	13
Transferred	44
Dropped	130
Deceased	41
	<u>228</u>

Total, May 1, 1932 3,202
Respectfully submitted,
E. J. GOODWIN, Secretary.

On motion of Dr. J. C. B. Davis, Willow Springs, seconded by Dr. Spence Redman, Platte City, the Secretary's Report was referred to the Council.

The Treasurer, Dr. G. W. Hawkins, Salisbury, read his report as follows:

REPORT OF THE TREASURER

I have the honor of submitting the following report of the financial condition of the treasury of the Missouri State Medical Association at the close of business May 20, 1932.

General Fund

Receipts

Balance May 1, 1931.....	\$11,872.16
County dues	21,069.00
Advertising	8,221.99
Medical Protective Company (Rent).....	585.00
Exhibit Space	350.00
Transferred from Legislative Fund.....	2,000.00
Refund St. Louis Medical Society.....	4.00
Refund to Dr. O. T. Blanke.....	4.50
Interest 1-1-31 to 12-31-31	167.50

Total\$44,274.15

Disbursements

Vouchers paid\$33,885.26

Balance, May 20, 1932.....\$10,388.89

Legislative Fund

Receipts

Balance May 1, 1931.....	\$ 3,284.35
Transferred from General Fund.....	2,694.00
Interest 1-1-31 to 12-31-31.....	82.50

Total\$ 6,060.85

Disbursements

Vouchers paid\$ 4,692.20

Balance, May 20, 1932.....\$ 1,368.65

Defense Fund

Receipts

Balance, May 1, 1931.....	\$1,140.27
Transferred from Legislative Fund.....	1,600.00
Interest 1-1-31 to 12-31-31.....	21.50

Total\$2,761.77

Disbursements

Vouchers paid\$1,500.00

Balance, May 20, 1932.....\$1,261.77

Sinking Fund

Receipts

Balance May 1, 1931.....	\$ 734.02
Interest 1-1-31 to 12-31-31.....	21.00

Balance May 20, 1932.....\$ 755.02

St. Louis Medical Society
Executive Secretary's Salary Fund

Receipts

Balance May 20, 1932, interest.....\$ 7.50

Recapitulation

May 20, 1932

General Fund	\$10,388.89
Legislative Fund	1,368.65
Defense Fund	1,261.77
Sinking Fund	755.02
St. Louis Medical Society Executive Secretary's Salary Fund	7.50

Total\$13,781.83
G. W. HAWKINS, Treasurer

Dr. Edwin Schisler, St. Louis, moved that a committee of three be appointed, two by the Chair and one from the floor, to review the Treasurer's report and make such economic recommendations as the report warrants.

THE PRESIDENT: There is an Auditing Committee of the Council that takes care of this regularly.

There was no second to Dr. Schisler's motion.

Dr. W. H. Breuer, St. James, moved that the Treasurer's report be referred to the Council. Seconded by Dr. W. C. Gayler, St. Louis.

After discussion by Drs. L. C. Chenoweth, Joplin; G. W. Hawkins, Salisbury, and H. A. Lowe, Springfield, Dr. Breuer's motion carried.

Dr. Edwin Schisler, St. Louis, repeated his motion that an economic survey be made that may enable us to cut down our expenses. Seconded by Dr. H. A. Lowe, Springfield.

After discussion by Drs. L. C. Chenoweth, Joplin; W. T. Elam, St. Joseph; A. R. McComas, Sturgeon; W. H. Breuer, St. James; A. J. Welch, Kansas City; Jabez N. Jackson, Kansas City; J. R. McVay, Kansas City, Dr. C. H. Neilson, St. Louis, rose to a point of order and said this discussion was out of order and should be referred to the next session of the House of Delegates this afternoon. He moved therefore that the regular order of business be resumed. This motion was seconded.

The Chair ruled the point of order well taken and put the motion on returning to the regular order of business which was carried.

Dr. E. J. Goodwin, St. Louis, Chairman of the Committee on Scientific Work, read the report of the committee as follows:

REPORT OF THE COMMITTEE ON
SCIENTIFIC WORK

The Committee on Scientific Work is gratified to report that in the preparation of the program for this session we have contributions from eight physicians in cities other than the two metropolitan centers. We hope the members in the smaller communities will continue to interest themselves in this phase of organization work and present articles at each Annual Session. There is a total of sixty papers on the program. Among these are four symposia to which members who have given many years of study to the various topics assigned them have willingly responded to the Committee's invitation. Although the number of papers to be delivered at each session somewhat crowds the program we believe the work can be completed if each member will deliver his address within the twenty minute period allowed by the By-Laws.

Our guests for this session are:

Edgar H. Allen, Ph.D., Columbia, Dean and Professor of Anatomy, University of Missouri School of Medicine.

Hon. H. S. Caulfield, Governor of Missouri.

Dr. E. T. Bell, Minneapolis, Professor of Pathology, University of Minnesota Medical School.

Dr. Edward H. Cary, Dallas, President, American Medical Association.

Mr. J. J. James, Kansas City, Missouri, Member, Missouri Workmen's Compensation Commission.

Dr. Burton J. Lee, New York City, Professor of Clinical Surgery, Cornell University Medical School.

Dr. Wm. S. Middleton, Madison, Wisconsin, Associate Professor of Medicine, University of Wisconsin Medical School.

A departure from previous custom will be noted in the places assigned to the President and President-Elect for the delivery of their addresses. These are listed to follow the Address of Welcome by Governor Caulfield on Tuesday morning instead of being delivered at the open session on Tuesday night. This leaves Tuesday night entirely at the disposal of the guest speakers of that evening, the purpose being to enable them to take as long as they desire in the delivery of their addresses instead of limiting them to twenty or thirty minutes as has been customary in the past.

E. J. GOODWIN, Chairman
ROBERT F. HYLAND
J. E. STOWERS

On motion of Dr. L. C. Chenoweth, Joplin, duly seconded, this report was referred to the Reference Committee on Miscellaneous Affairs.

Dr. W. L. Allee, Eldon, Chairman of the Committee on Public Policy, read the report of the committee as follows:

REPORT OF COMMITTEE ON PUBLIC POLICY

Your Committee submits the following report of its activities during the past year.

The Council at its regular annual meeting requested our committee to present for your consideration a request of the Committee on Medicolegal Problems of the American Medical Association that the Missouri State Medical Association assist in promoting the establishment of effective cooperation between the Federal Commission of Narcotics and the medical licensing board of our State in their efforts to suppress the abuse of narcotic drugs.

Your committee supported S. 3090, a bill relating to the prescribing of medicinal liquors, introduced by Senator Copeland and its companion, H.R. 8077, introduced by Representative Beck in the Congress. This bill was introduced by Senator Copeland and Representative Beck at the instance of the American Medical Association for the purpose of removing present statutory limitations on the quantity of spirituous and vinous liquor that a physician can prescribe and to remove the difficulties that now lie in the way of obtaining more than one hundred prescription blanks in ninety days; and to provide by statute what has already been provided by regulation, namely, the avoidance of the disclosure of the ailments of patients incident to the filing in public offices of records naming such ailments. This bill in fact proposes to place the prescribing of liquor, in so far as frequency and quantity are concerned, on the basis on which narcotic drugs are prescribed under the Harrison Narcotic Act; that is, to permit a physician to prescribe in any case, at any time, any quantity of liquor that he deems necessary to meet medicinal needs. This bill, however, does not remove all limits on the quantity of liquor that a physician may prescribe; it provides that "no more liquor shall be prescribed to any person than is necessary to supply his medicinal needs."

W. L. ALLEE, Chairman
P. D. GUM
W. T. ELAM

On motion of Dr. Edwin Schisler, St. Louis, seconded by Dr. C. P. Dyer, Webster Groves, this report was adopted.

Dr. J. C. B. Davis, Willow Springs, Chairman of the Committee on Publication, read his report as follows:

REPORT OF THE COMMITTEE ON PUBLICATION

The 28th volume of THE JOURNAL was completed with the December, 1931, issue. During the twelve months of 1931 THE JOURNAL published 109 original articles and 3 special articles. There were printed 59 editorials, 45 obituaries, 343 news items, 161 reports of county societies, the report of our Seventy-Fourth Annual Meeting, 8 reports of the Kansas City Academy of Medicine, the report of the 1931 meeting of the Southeast Missouri Medical Society, and 7 miscellaneous articles. Forty-eight reports of the Woman's Auxiliary were published, together with numerous articles on Truth About Medicine and 107 book reviews. One hundred thirty-one books were received during the year. These books were sent to the medical libraries of St. Louis Medical Society, Jackson County Medical Society, and Nodaway County Medical Society, and some highly technical books were sent to the medical library of the State University.

THE JOURNAL contained 634 pages of reading matter and 412 pages of advertising, the latter earning \$7,825.66. To this amount must be added \$844.61 for accounts receivable, making a total of \$8,670.27. Subscriptions to THE JOURNAL amounted to \$63.80, making a grand total of \$8,734.07, actually earned by THE JOURNAL. The total cost of printing THE JOURNAL, including the cost of illustrations, was \$7,964.89, showing an excess of income over expenditure to the amount of \$769.18.

Business of every kind is now and for some months past has been feeling the sting of depression. THE JOURNAL is no exception. Beginning with last January THE JOURNAL has felt most keenly the effects of the general economic situation by reduced advertising contracts. To meet this loss in advertising the editor finds it advisable to make all possible reductions in the management of the Journal office, a course which this committee commends and endorses.

J. C. B. DAVIS, Chairman
G. WILSE ROBINSON
M. A. BLISS

On motion of Dr. T. W. Cotton, Van Buren, seconded by Dr. C. P. Dyer, Webster Groves, this report was referred to the Council.

Dr. Charles E. Hyndman, St. Louis, Chairman of the Committee on Defense, read his report as follows:

REPORT OF COMMITTEE ON DEFENSE

Disposition of Cases

Cases pending May 1, 1931.....	24
Threats pending May 1, 1931.....	9
New cases during the year.....	16
New threats during the year.....	3
Cases settled during the year.....	18
Threats which have not developed into suits during the year.....	1
Cases pending May 1, 1932.....	22
Threats pending May 1, 1932.....	11
Financial assistance rendered during the year.....	\$1500

Of the cases settled there were four verdicts for the defendant, two verdicts for the plaintiff, three cases settled out of court, eight cases dropped and one threat dropped.

One of the adverse decisions was in a suit for \$40,000, in which a verdict of one dollar was rendered against the defendant physician. The other was in a double suit in which the plaintiff, a minor, was allowed \$4,000, and the parents \$3,500 and both of these amounts were confirmed by the court of appeals.

We feel that this is not a bad showing when we consider the percentage of cases which were forced to be dropped for lack of merit and the success with which the cases that went to trial were defended.

The Defense Committee wishes to express its thanks and appreciation for the valuable assistance and cheerful cooperation of the members throughout the State in carrying on the work during this year.

C. E. HYNDMAN, Chairman
M. L. KLINEFELTER
O. B. ZEINERT

On motion by Dr. G. W. Hawkins, Salisbury, seconded by Dr. J. S. Gashwiler, Novinger, this report was referred to the Council.

The report of the Committee on Medical Education and Hospitals was read by the Chairman, Dr. R. A. Woolsey, St. Louis, as follows:

REPORT OF COMMITTEE ON MEDICAL EDUCATION AND HOSPITALS

At the Joplin meeting last year this Committee reported on a resolution passed on at the meeting of the Council at Columbia on November 17, 1930, which referred to the reestablishing of the third and fourth year in the Medical Department of the University of Missouri.

This report sets forth reasons why such steps should be taken. They were concurred in by our Council at the Joplin Meeting and by the Board of Curators of the University. Third year classes were started last year with the thought of graduating the first class in 1933.

These are lean years. Economic conditions have made it imperative that State expenses be reduced. Governor Caulfield has demanded a reduction in the expenses of the University as in all other departments of the State. The last expense promulgated in the University necessarily is the first to be lopped off. On April 2 the President of the University announced that the last two years of medicine would be suspended after this term until such time as the University's finances permitted their continuance. Provision has been made to transfer the third year students to other institutions where they will be given full credit.

The establishment and maintenance of the third and fourth years in medicine at Columbia has been amply justified. The students are especially enthusiastic over the term just closing. They are distressed that shortage of funds has made this step necessary and are keenly disappointed that they will not be able to graduate from the University next year. It is the purpose of the University to reestablish the third and fourth years of medicine as soon as and if the financial structure of the State will permit.

R. A. WOOLSEY, Chairman
W. H. BREUER
HAROLD P. KUHN

On motion of Dr. R. A. Woolsey, St. Louis, seconded by Dr. D. A. Barnhart, Huntsville, this report was adopted.

Dr. Ellis Fischel, St. Louis, Chairman of the Committee on Cancer, read his report as follows:

REPORT OF THE COMMITTEE ON CANCER

At the Annual Meeting of the Missouri State Medical Association in Joplin, in 1931, Chapter Seven of the By-Laws of the Missouri State Medical Association was amended to include a Committee on Cancer. The amendment outlined the duties of this Committee as follows: "The Committee on Cancer shall investigate the facilities provided for the care of the cancer sufferer in the State of Missouri and shall cooperate with the American Society for the Control of Cancer or other ethical organizations for cancer control to the end that authentic information in regard to diagnosis and treatment of cancer be properly disseminated throughout the State of Missouri."

The first Committee on Cancer was appointed in December, 1931, and promptly organized to formulate a program to conform to the duties of the Committee as outlined in the By-Laws. Considerable groundwork was done by correspondence and on March 16, 1932, the Committee met with its full membership present at the Daniel Boone Tavern in Columbia, Missouri.

In order to comply with the first duty as outlined in the By-Laws, namely, to investigate the facilities provided for the cancer sufferer in the State of Missouri, a letter and questionnaire were sent to the eighty-eight county medical society secretaries. This questionnaire stated the number of patients who died of cancer within the jurisdiction of the county society during the year 1930 (these figures obtained through the Secretary of the State Board of Health); and then proceeded to ask the following questions: (1) the opinion of the secretary of the facilities for the handling of cancer patients in his county; (2) in what proportion of cancer cases was the diagnosis made within one year after onset and (3) whether or not the following facilities are available in his county: tumor tissue diagnosis, radium treatment, radical cancer surgery, X-ray diagnosis, X-ray therapy and hospitalization of cancer cases.

These questionnaires were sent out in April. To date sixty-six replies have been received. These replies have been analyzed and tabulated and a map prepared. Roughly stated it may be said that sixteen out of the one hundred and fifteen counties of the State have good facilities for the care of cancer patients; five have partial facilities, and forty-five have poor or in most cases no facilities. No reply was obtained from the questionnaires sent to the remaining twenty-two county medical society secretaries.

General discussion of the question of cancer control in the State of Missouri at the meeting of the Cancer Committee in Columbia led to the following program to be recommended to the State Medical Association:

1. The most crying need in the opinion of your Committee is to provide for all doctors in the State of Missouri competent facilities for the free diagnosis of tumor tissue with the establishment of a central laboratory to care for this work. The Committee feels that the State University School of Medicine situated at Columbia is the logical place for this laboratory, provided funds can be obtained for this special work either from the State Medical Association, private sources, or preferably and most logically a special appropriation by legislature for this specific work.

2. A general educational program should be undertaken in cooperation with the American Society for the Control of Cancer. This program can be carried out by enlisting a number of capable men, members of the State Medical Association, to appear at County Medical Meetings and District Councilor meetings to give Cancer Clinics and to address lay meetings. This work could be synthesized or carried out to great advantage with the work of the Committee on Postgraduate Course.

3. Through the cooperation of the editor of the MISSOURI STATE MEDICAL JOURNAL, monthly articles of the unsigned editorial type devoted to some phase of the cancer problem are to be published in the MISSOURI STATE MEDICAL JOURNAL. These articles are in the course of preparation.

4. Further educational work could be instituted by staging an exhibit at the Missouri State Fair under the auspices of the State Medical Association and in cooperation with the Secretary of the State Board of Health. Such an exhibit can be of a popular nature to educate the laity to the importance of the recognition of possible early symptoms and signs which may mean cancer.

The Committee has tabulated the replies from its questionnaire on a county map of the State of Missouri and has placed this map on exhibition in the Scientific Exhibit Section. It is hoped that the delegates will view this map because it presents most graphically the inadequacy of the facilities provided both to the physician and his patient for the proper care of the cancer patient in the State of Missouri.

Respectfully submitted,
ELLIS FISCHER, Chairman
EARL C. PADGETT
DUDLEY A. ROBBETT

On motion of Dr. E. B. Kenner, Wentzville, seconded by Dr. J. R. McVay, Kansas City, this report was adopted.

Dr. Charles H. Neilson, St. Louis, Chairman of the Committee on Postgraduate Course, read his report as follows:

REPORT OF COMMITTEE ON POST- GRADUATE COURSE

I wish to thank the committee, and especially Dr. Goodwin, for his interest and care in this very important part of the duties of the State Medical Association.

The number of people sent out in 1931, was seventy members who were sent to fifty-four meetings of twenty-two county societies and Councilor Districts. In 1932 eighty-six members were sent to fifty-nine meetings of twenty-three societies and Councilor Districts, showing that the work has not fallen off but slightly increased in spite of the depression now existing.

The physician gives a personal service and he has a duty to perform to his patient. In order to be well worth while the physician ought to be as well equipped as is possible to give that patient what is necessary and proper. The physician also has a duty to himself, namely, to make himself as comfortable as possible when he is treating a patient. I do not know of anything so uncomfortable as to be in deep water in a case. Possibly you men do not have that experience, but I have it frequently. I am unhappy because I do not have a sufficient grasp of that particular case. The object of this work is to enable physicians to become better acquainted with what is going on in medicine today. Nearly all of these men who have gone out to these county societies are teachers, teachers in medical schools or are teachers in their locality.

A man said to me the other day, "I do not believe the work you are doing is worth anything." I take exception to that. I think his criticism was unjust. These men who have gone out to do this work have done so at considerable sacrifice. This man also said that the reason these men wanted to go is so they can make contact with the country doctors in the hope of their sending them patients. I resent that also. I believe they go out because they love to teach, and every doctor, no matter where he is, is a teacher. Our function is first to make the patient as comfortable as possible; second to cure him if possible, and third, to teach him to keep himself healthy and perhaps the greatest part of our function as physicians is teaching. Therefore, I claim this is one of the most important functions of the State Medical Association and should be encouraged.

We have heard some mention of cutting the dues owing to the stringency of financial affairs. I am sure that if the dues are cut this important work, which should be increased, will have to be materially cut. Many of our doctors have gone out repeatedly without sending in any financial account. They have paid their own expenses. Some have turned in an expense account.

I wish to compliment certain districts in the State, particularly the Five-County Group away down in the southeastern portion of Missouri. They are a live bunch down there—away down there in the swamps. They are meeting nearly every month, and when physicians go down there they have twenty-five, forty or fifty doctors present. I recommend that all of you, if you cannot do it in your county societies, get a group together and ask for teachers. We welcome any man, no matter who he is, who has a message.

What does the doctor get out of it? I'll tell you what he gets out of it. The men who teach these doctors and students get more out of it than those who receive the message. There is nothing teaches a man so much as having to prepare himself on any subject, looking up the literature and getting it in shape to present to people.

C. H. NEILSON, Chairman
J. R. McVAY
M. P. NEAL

On motion of Dr. J. C. B. Davis, Willow Springs, seconded by Dr. J. S. Gashwiler, Novinger, this report was referred to the Council.

Dr. Joseph W. Love, Springfield, Chairman of the Committee on Medical Economics, read his report as follows:

REPORT OF COMMITTEE ON MEDICAL ECONOMICS

At the Detroit Session of the American Medical Association in 1930 a resolution was introduced by a delegate from California asking for the creation of a Council on Medical Economics, and in the address of the then President, Dr. M. L. Harris, Chicago, there was a recommendation that a

Bureau of Medical Economics be established. Both the recommendation of Dr. Harris and the resolution from California were referred to the Reference Committee on Reports of Officers of which Dr. Goodwin, our Secretary and Delegate, was Chairman.

The Reference Committee approved the establishing of a Bureau on Medical Economics to function under a Board of Trustees. We feel that Missouri therefore played an important role in its establishment. Subsequently in 1931 Dr. R. G. Leland was appointed Director of the Bureau which has functioned a little over one year.

Dr. Leland has made several reports on various phases of Medical Economics, abstracts of which have been published in *The Journal of the American Medical Association*.

At the New Orleans Session of the American Medical Association, this month the plan of having a special committee assist the Director in the work was approved.

Our parent body is proceeding slowly but surely in its plans to assist the constituent state and component societies in solving some of the problems that have for many years been troublesome economic questions in the practice of medicine. Your committee will follow the lead established by the American Medical Association.

JOSEPH W. LOVE, Chairman
R. B. H. GRADWOHL
K. W. KINARD

On motion of Dr. G. W. Hawkins, Salisbury, seconded by Dr. T. H. Wilcoxon, Bowling Green, this report was adopted.

Dr. M. P. Overholser, Harrisonville, Chairman of the Committee on Revision of the Constitution and By-Laws, reported that no amendments to the Constitution and By-Laws had been submitted and the committee therefore had no report to make.

Dr. Frank G. Nifong, Columbia, reported for the special committee on the Andrew Walker McAlester Memorial Foundation, as follows:

As you know, the purpose of this Foundation is to teach health to the laity. It has been unorganized for several years, but now we have it organized and a board of managers elected, two of them elected from the Missouri State Medical Association. I think most of the members are familiar with the purpose of this Foundation, and if you will remember the reports of committees this morning, that on Cancer, the address by the retiring President of the Woman's Auxiliary, Public Policy and Medical Education, and various and sundry other committees, you will notice that they all stress the fact that one of our biggest functions nowadays is to teach the laity in regard to health.

Dr. McAlester was a prophet in Israel. He had a great vision of what would be a good service for the people outside of that rendered by the regular medical men and so, working on this idea, this Foundation was consummated by some of his friends. Necessarily, it will function largely without money because this is not a good time to get money from doctors or anybody else. We are happy in having the organization completed and ready to go ahead. We are happy in having the cooperation of the Missouri State Medical Association, and the members of the postgraduate service in particular for this purpose. Much may be done in public education and it is our function as doctors to teach the public, but much may be done and is being done by the members of the postgraduate service. We asked the Committee on Postgraduate Course and the Council to cooperate and they have generously done so realizing what the need is. It is our purpose now, without money except a little for postage, etc., to function to a great extent by having the members who go to the different communities to teach the medical men medicine and surgery, to also teach the laity public health and preventive medicine. I would urge you members who are capable of doing that to prepare yourselves for this project. It is more difficult to teach the laity than your medical brethren, but I hope you will take this into consideration and prepare yourselves to teach the laity on prevention and control of cancer, tuberculosis, prevention of infectious diseases. All this is a matter of public education and will redound to the credit of the medical profession. This is the purpose of the Andrew McAlester Memorial Foundation, the great purpose. It is under the authority of the University of Missouri and the Missouri State Medical Association.

The report was discussed by Drs. M. P. Neal, Columbia; A. R. McComas, Surgeon; and Frank G. Nifong, Columbia. On motion the report was received.

President Harrison announced the appointment of the Committee on Nominations, as follows:

Committee on Nominations

Frank G. Nifong, Columbia, Chairman
T. W. Cotton, Van Buren
J. R. McVay, Kansas City
W. M. West, Monett
R. M. James, Joplin
A. H. Marshall, Charleston
C. D. Humbert, Barnard
A. P. E. Schulz, St. Charles
Charles E. Hyndman, St. Louis
J. C. B. Davis, Willow Springs

On motion adjourned.

Monday, May 23, 1932—Afternoon Session

Following recess, the House of Delegates reconvened at 3:30 p. m., Monday, May 23, 1932, the President, Dr. J. F. Harrison, Mexico, in the Chair.

THE PRESIDENT: We will now have the reports of the Reference Committees.

Dr. Jabez N. Jackson, Kansas City, chairman of the Reference Committee on Amendments to the Constitution and By-Laws, reported that no amendments had been submitted and the committee therefore had no report to make.

Dr. Fred Griffin, Mexico, Chairman of the Reference Committee on Resolutions, reported that the Committee had no report to make.

Dr. H. M. Moore, St. Louis, Chairman of the Reference Committee on Miscellaneous Affairs, reported that the committee had no report to make.

The selection of the next place of meeting brought invitations from Kansas City by Dr. A. J. Welch and from Columbia by Dr. Frank G. Nifong. On vote, Kansas City was named as the meeting place for 1933.

The Secretary read the resignation of Dr. C. T. Ryland, Lexington, as Councilor of the 14th District.

Dr. Jabez N. Jackson, Kansas City, moved that Dr. Ryland's resignation be regretfully accepted in view of his past faithful service. Seconded and carried.

The President introduced Mr. J. W. Becker, Secretary of the Missouri Tuberculosis Association, who spoke as follows:

I wish to bring you a word of appreciation. Twenty-five years ago, on May 15, the Missouri Tuberculosis Association was organized in the House of Representatives, Jefferson City. It was organized in connection with the Annual Meeting of the Missouri State Medical Association. The chairman of your Tuberculosis Committee, Dr. William Porter, was instrumental in bringing about its organization.

During 1906 he secured a temporary board of directors composed of physicians of the State, and at four o'clock on May 15, 1907, the organization was formed. I wish at this time to express the appreciation of the State Tuberculosis Association for the cordial and enthusiastic support of the medical profession of this State during these twenty-five years.

At the beginning, Dr. George Homan of St. Louis was elected president. In looking over the list of presidents published in your program I find that fourteen physicians prominently connected with the State Tuberculosis Association have served as presidents of your State Association.

Twenty-five years ago the death rate from tuberculosis in Missouri was something more than 150 per 100,000 population; today it is 70 per 100,000 of population. At that time St. Louis had the only local organization; no other county had organized a local group to carry on this campaign. At the present time more than sixty counties have local organizations.

I want to say one thing further. That we want the physicians to understand that the Missouri Tuberculosis Association in its campaign throughout the State now and then arranges a clinic, but under no circumstances does our organization arrange for such clinics unless it is invited to do so in writing by the local medical society. Then, be it said to the credit of the physicians of the State, that those whom we secure to give these clinics come without charge.

We have gone the first mile. Twenty-five years has brought many things to pass in the campaign to eradicate tuberculosis. We must now go the next mile. The next twenty-five years may seem easy but to my way of thinking will be harder to make inroads on this disease than it has been in the past

twenty-five years. It is always easy to make a showing when you attack a new problem. Though the service has been crude and much loose material gathered, it covers more work and study and effort than it did in the previous twenty-five years.

Tonight we are to have somewhat of a State conference. The Medical Association, the State Department of Health, the State Eleemosynary Board, and the State Tuberculosis Association are to sit around the dinner table and talk over some problems that now confront us and perhaps something may grow out of that meeting that will make us see the way to go the next mile.

I want to call your attention to one thing in the counties of the State. Twenty-eight of them have a tuberculosis death rate higher than the State average, which is 70. Unfortunately, in most of these counties, county boards and courts have been forced, because of the depression, to withdraw their patients from the State Sanatorium and these patients have been brought home which of course means a tremendous problem.

I believe we will begin our next mile with the motto promulgated this year by the National Tuberculosis Association: "Tuberculosis causes tuberculosis. Every case comes from another."

Dr. A. R. McComas, Surgeon, Chairman of the Council, read the report of the Council as follows:

REPORT OF THE COUNCIL

The Council has considered the reports referred to it by the House of Delegates and approved the recommendation of the President that the Postgraduate Committee arrange for public addresses by members of our Association in connection with speakers on technical topics at the various meetings to which the Committee sends speakers in cooperation with the McAlester Memorial Foundation and the Secretary of the State Association.

The Council recommends that the Committee on Public Policy be authorized to draft a bill or bills for introduction in the next session of the legislature to provide better protection of physicians' fees when services are rendered in road accidents and to cooperate with the Automobile Club of Missouri and other organizations that have similar interests, one object being to establish a lien upon the amount of insurance money collected by the person who is injured so that the physician and hospital fees will be protected.

The Council indorsed the Code of Ethics of the Association of Artificial Limb Manufacturers of America.

The Council recommends that Livingston and Caldwell Counties be consolidated to form the Caldwell-Livingston County Medical Society. The Council recommends that county societies that have been organized and are active and want to become consolidated with another county shall retain the right to send a delegate to the Association.

A request from Jackson County Medical Society for the State Association to order the expulsion of a Jackson County member who has obtained a license to practice osteopathy and who is practicing in an osteopath hospital in Kansas City was referred back to Jackson County Medical Society.

Dr. B. Kurt Stumberg, St. Charles, Councilor of the 8th District, recommended that the St. Louis County Medical Society be erected into a district of its own to be known as the 30th Councilor District. The Council approved this recommendation because of the large number of physicians in St. Louis County and the consistent and continuous splendid activities of the county society and asks the House of Delegates to confirm this recommendation.

Dr. R. L. Thompson, St. Louis, Councilor of the 20th District, recommended that Franklin County be removed from the 20th District and placed in the 8th District where it properly belongs because of its contiguity with other county societies in the 8th District. The Council recommends confirmation of this recommendation.

The Council appointed an Auditing Committee consisting of Drs. W. H. Breuer, St. James, W. T. Elam, St. Joseph, and D. A. Barnhart, Huntsville, members of the Council and requested Drs. C. H. Neilson, C. E. Hyndman, of St. Louis, and J. C. B. Davis, Willow Springs, to act as advisors with the Auditing Committee to make a general survey of expenditures and income to reduce expenses as much as possible. To this committee was referred the reports of the Committee on Defense, the Treasurer's Report and the Report of the Postgraduate Committee.

At the annual meeting of the Council, November 4, 1931, Dr. E. P. North, St. Louis, at the request of Dr. R. L. Thompson, St. Louis, Councilor of the District, reported on the attempt of certain persons to establish a class B medical school in St. Louis. The court appointed former Judge Harry E. Sprague as amicus curiae who consulted Dr. North, the St. Louis Medical Society, and the Secretary of our Association. Judge Sprague after a thorough and exhaustive investigation recommended to the court that the petition for a pro forma decree of incorporation be denied.

The court accepted this recommendation and denied the petition.

The Secretary was instructed by the Council to inform all county societies of the affair in order that other circuit courts might be informed of the attempt and be prepared to take intelligent action. As far as the Council is aware no other attempt has been made to establish a low grade medical school in Missouri.

President Harrison announced at the annual meeting of the Council the appointment of a Committee on Cancer as required by a new By-Law. This Committee consists of Dr. Ellis Fischel, St. Louis, Chairman; Dr. E. C. Padgett, Kansas City, and Dr. D. A. Robnett, Columbia. The Council recommends the confirmation of these appointments.

The Council established a budget for 1932 as required by By-Laws.

A. R. McComas, Chairman of the Council

Dr. McComas moved that the report be adopted. Seconded by Dr. W. H. Breuer, St. James.

Dr. L. C. Chenoweth, Joplin, moved to amend the report of the Council by adding the name of Dr. Edwin Schisler, St. Louis, to the Auditing Committee. Seconded by Dr. Jabez N. Jackson, Kansas City. Discussion by Drs. A. R. McComas, Surgeon; L. C. Chenoweth, Joplin; W. H. Breuer, St. James; W. T. Elam, St. Joseph, and Jabez N. Jackson, Kansas City.

On vote the amendment failed to carry the vote being 27 for the amendment and 29 against it.

On vote the original motion to adopt the report of the Council carried.

Dr. C. P. Dyer, Webster Groves, said the delegates from St. Louis County wish to convey to our Councilor, Dr. B. K. Stumberg, St. Charles, who has been councilor for five years, our appreciation for having erected us to a separate Councilor District. St. Louis County now has something like 95 active members, some 25 associate and corresponding members, besides several hundred physicians who reside and practice in the county and belong to the State Association. We have always been in accord with the State Association and I am sure with this added impulse we will be able to give even greater efforts to medicine and to the State Association.

Dr. A. R. McComas, Surgeon: Dr. Grindon has a matter that he would like to bring before the House of Delegates although he is not a delegate and I move that he be given the privilege of the floor to state his preliminary report and then have the right to submit his full report at the next meeting of the House of Delegates.

The motion was seconded by Dr. Frank G. Nifong, Columbia, and carried.

Dr. Joseph Grindon, St. Louis, Vice President, spoke on a matter which had been brought before the St. Louis Medical Society by Dr. G. D. Kettelkamp, Koch, in regard to an appropriation for the rehabilitation of cases of tuberculosis, the so-called arrested cases. Briefly, it is this:

The Federal Government has appropriated a sum of money for this purpose in all of those States that will match the amount. The sum of money set apart for the State of Missouri will be \$29,000. All of the States except four—we are one of the four—have matched that sum by an equal amount. There is that money waiting for that purpose whenever the State Legislature takes steps to appropriate a like amount. But we want the endorsement of the Missouri State Medical Association. It has been endorsed by other organizations and I believe if we give it our approval that the State Legislature will act upon it, which they certainly should do.

On motion, adjourned.

Wednesday, May 25, 1932—Afternoon Session

The House of Delegates convened at 4:05 p. m., Wednesday, May 25, 1932, with the President, Dr. J. F. Harrison, Mexico, in the Chair.

THE PRESIDENT: On Monday Dr. Grindon was authorized to present a matter and if there is no objection we will hear him now.

DR. JOSEPH GRINDON, St. Louis: This refers to the rehabilitation of cases of tuberculosis. Tuberculosis picks most of its victims from that period of life when normally the afflicted would be attending school, learning trades or in other ways preparing themselves for later competition in economic life. Because this is true the disease itself has interrupted this preparation in a great many of the patients in a tuberculosis sanatorium. Although tuberculosis attacks all people in all strata of society, it is an accepted fact that it recruits the majority of its victims from those who are economically underprivileged. The result of all this is that a great many tuberculous patients have a preparation that, under normal circumstances, is none too good, and when they become further hampered by a physical handicap the outlook becomes still less hopeful. It becomes our duty to provide the means by which these patients can be instructed along the necessary lines.

In 1920, soon after the World War, a Federal statute was enacted making available to the several States certain sums of Federal money for rehabilitation of their citizens who have been handicapped by accident or disease. The amount depends on the population of the State. The Federal grant, however, is available only when the State appropriates an equal amount for this purpose. Today our State has the unenviable distinction of being one of only four States in the Union that are not matching this Federal grant. Were we to match it by a State appropriation, \$29,000 of Federal funds would be available to us for this purpose. As it is now, however, the \$29,000 intended for us is being apportioned out to the other 44 more progressive States.

It is evident, I am sure, that Missouri is in reality wasting a great deal of money maintaining in her eleemosynary institutions many people who with the \$58,000 available (once we appropriate \$29,000) could be made entirely self-supporting.

No action was taken.

On motion, duly seconded, the reading of the minutes of the previous meeting was dispensed with.

PRESIDENT HARRISON: We now come to election of officers. Nominations are in order for President-Elect.

ELECTION OF OFFICERS

Nomination of President-Elect

DR. JABEZ N. JACKSON, Kansas City: It has become quite customary to elevate to the Presidency of the Missouri State Medical Association a man who has won that right by long years of faithful service. Such a man I have the privilege of nominating this afternoon, one who in his innate modesty has never made a bid for glory and adulation, but whenever a tedious job requiring work presented itself, has never failed to be at the service of the Association. When I was elected president, the greatest source of gratification to me was in the fact that my father had occupied this office before me. The gentleman whom I am pleased to nominate at this time is one whose father has been president and who was known to every medical man in Missouri. I present the name of Dr. W. L. Allee, of Eldon. Seconded by Dr. C. T. Ryland, Lexington.

Dr. B. K. Stumberg, St. Charles, moved that the nominations be closed and that Dr. Allee be elected by acclamation. Seconded by Dr. Guy Titsworth, Sedalia, and carried unanimously.

Report of the Committee on Nominations

Dr. Frank G. Nifong, Columbia, Chairman of the Committee on Nominations submitted the following report:

For vice presidents: Elsworth S. Smith, St. Louis; O. S. Gilliland, Kansas City; R. W. Hogeboom, Springfield.

For delegates to the American Medical Association: Delegate, Jabez N. Jackson, Kansas City; alternate, E. H. Skinner, Kansas City. Delegate, A. R. McComas, Sturgeon; alternate, H. L. Kerr, Crane. Delegate, W. M. West, Monett; alternate, A. H. Marshall, Charleston.

For councilors:

- 1st District, O. C. Gebhart, Oregon
- 3rd District, J. A. Crockett, Stanberry
- 5th District, J. R. Bridges, Kahoka
- 7th District, W. D. Pipkin, Monroe City
- 9th District, A. R. McComas, Sturgeon
- 11th District, J. H. Timberman, Chillicothe
- 13th District, A. J. Welch, Kansas City
- 14th District, C. T. Ryland, Lexington

- 15th District, L. J. Schofield, Warrensburg
- 17th District, Guy Titsworth, Sedalia
- 18th District, E. C. Shelton, Eldon
- 19th District, J. S. Summers, Jefferson City
- 21st District, N. W. Jarvis, Festus
- 23rd District, J. B. Luten, Caruthersville
- 25th District, P. S. Tate, Farmington
- 27th District, J. C. B. Davis, Willow Springs
- 29th District, R. M. James, Joplin
- 30th District, R. B. Denny, Creve Coeur

Dr. W. T. Elam, St. Joseph, moved that the report be adopted. Seconded by Dr. S. L. Baysinger, Rolla, and carried.

Dr. W. H. Breuer, St. James, moved that the members nominated by the committee be declared elected to the offices for which they were nominated. Seconded and carried.

Installation of President, Joseph W. Love

PRESIDENT HARRISON: Dr. Love, in presenting to you the gavel which you will wield over the Missouri State Medical Association, I hope you will experience the great pleasure that I have had in serving the Association for the past year, and I am sure the members of the Association will be as cordial and kind to you as they have been to me. Personally, I want to assure you that as a private in the ranks I still wish to be an active member at all times and as long as I am able to navigate I hope to be in attendance at the sessions of the Missouri State Medical Association.

Remarks of President Love

DR. JOSEPH W. LOVE, Springfield: I have no program to offer for the year which is to come. I have only one assertion to make—I wish to emphasize the fact that I have no intention whatever of undertaking the task of making over the Missouri State Medical Association. I am committed to a policy of economy for the coming year—the strictest commensurate with the efficiency of the Association. I will apply myself to the duties of the office to the best of my ability. I thank you very much.

President Love appointed the following members of standing committees:

Robert F. Hyland, St. Louis, Committee on Scientific Work.

J. R. McVay, Kansas City, Committee on Postgraduate Work.

G. Wilsie Robinson, Sr., Kansas City, Committee on Publication.

J. F. Harrison, Mexico, Chairman of the Committee on Public Policy to succeed W. L. Allee, Eldon, who was elected President-Elect; and W. T. Elam, St. Joseph, a member of the Committee on Public Policy to succeed himself.

M. L. Klinefelter, St. Louis, Committee on Defense.

W. H. Breuer, St. James, Committee on Medical Education and Hospitals.

D. A. Robnett, Columbia, Committee on Cancer.

Roland S. Kieffer, St. Louis, Committee on Revision of Constitution and By-Laws.

Robert Vinyard, Springfield, Chairman of the Committee on Medical Economics, to succeed Joseph W. Love, Springfield, now President of the Association; and R. B. H. Gradwohl, St. Louis, a member of the Committee on Medical Economics to succeed himself.

Dr. Edwin Schisler, St. Louis, moved that these appointments be confirmed. Seconded and carried.

PRESIDENT LOVE: I now have the honor of presenting your President-Elect, Dr. W. L. Allee, Eldon.

Remarks of President-Elect Allee

DR. W. L. ALLEE, Eldon: When one's friends so graciously and with a great deal of tolerance confer an honor upon you, particularly such an honor as President-Elect of our State Medical Association, it is very difficult to express one's appreciation in words. You all know how I feel. I will make this promise, that if at any time any of you have any constructive criticisms or suggestions, I will to the best of my ability reflect and promote them in the interest of organized medicine. I thank you very much.

REPORT OF REFERENCE COMMITTEE ON MISCELLANEOUS AFFAIRS

Dr. H. M. Moore, St. Louis, Chairman of the Reference Committee on Miscellaneous Affairs, reported as follows:

Two items were referred to your Reference Committee on Miscellaneous Affairs. One was the address of Mrs. A. B. McGlothlan, St. Joseph, retiring President of the National Woman's Auxiliary to the American Medical Association. This address is a splendid epitome of auxiliary activities and your committee recommends that it be published in THE JOURNAL.

The other matter was the Report of the Committee on Scientific Work. Your committee recommends that the report be adopted.

Respectfully submitted,
H. M. MOORE, Chairman
H. A. LOWE
N. W. JARVIS

Dr. W. H. Breuer, St. James, moved that the report be adopted. Seconded and carried.

Dr. A. W. McAlester, Sr., Kansas City, moved that Mrs. McGlothlan be furnished with 100 reprints of her address for distribution to other auxiliaries. Seconded by Dr. W. H. Breuer, St. James, and carried.

Dr. W. H. Breuer, St. James, presented the report of the Auditing Committee appointed to review the reports of the Secretary and Treasurer, as follows:

REPORT OF THE AUDITING COMMITTEE

The Auditing Committee appointed by the Chairman of the Council together with the Chairmen of the Committees on Publication, Defense and Postgraduate Work as advisory members, met in Room 626 of the Missouri Hotel at 8 p. m. The Chairman invited Dr. Edwin Schisler of St. Louis to meet with the Committee and he was present.

The Committee first made a careful study of the reports submitted by the Secretary and the Treasurer and the financial report submitted by the certified public accountants, Kessler, Cartall and Company, and after due consideration and discussion desire to submit the following recommendations:

Exhibit "B" of said report shows the following expenditures for the year ending December 31, 1931:

<i>Expenses</i>	
Officers' salaries, Secretary and Treasurer.....	\$ 6,500.00
Salary, Executive Secretary, St. Louis Medical Society	416.74
Office salaries for employees.....	5,570.00
Office rent and light	1,186.20
Traveling expenses of president	10.00
Printing and stationery	703.54
Telephone and telegraph	1,115.59
Postage	770.19
JOURNAL expense	7,909.79
General incidental expenses of office.....	1,006.23
Cash discount to advertisers	395.13
Commission on JOURNAL advertising.....	856.74
Defense—malpractice suits	1,200.00
Insurance	9.09
Legislative expense	2,221.39
Meetings, annual, council, etc.....	1,901.10
Bad debts	55.50
Postgraduate meetings	1,347.69
Traveling expenses	723.21

Total expenses for 1931.....\$33,898.13

The Budgeting Committee which met and reported to the Council at Columbia, Missouri, Nov. 4, 1931, submitted the following report which was adopted by the Council for the year ending December 31, 1932.

Budget for 1932

Salaries, secretary, treasurer and office help	\$ 9,400 saving \$2,670
Printing JOURNAL	8,000
Legislation	1,000 saving 1,221
Defense	500
Postage	500
Postgraduate work	2,500
Printing and stationery	600
Traveling expenses of president.....	500
Traveling expenses of secretary	1,000
Telegraph and telephone	1,000
Rent of offices	1,380
Executive committee of council.....	800

Total budget for 1932.....\$27,180

The difference between \$33,898.13, the expenses of the Association for 1931 and \$27,180 budget for 1932 shows a saving for 1932 over 1931 of \$6,718.13.

The Secretary, Dr. Goodwin, with approval of the Executive Committee has made arrangements to make further savings in his office of \$75 per month and by some slight

changes in THE JOURNAL which will in no way destroy its efficiency save \$100 per month on THE JOURNAL expense. By reducing the bond on the bank of the Treasurer from \$25,000 to \$20,000 a saving of \$50 may be consummated.

All of these retrenchments taken together will result in a saving to the Association of several thousand dollars for the year 1932 over 1931 and the Secretary and President together with the Chairman of the Committee that controls the expenditures of the various funds have assured us that the strictest economy will be carried out during the coming year.

There is no question about the financial standing of the Association. The budget is well below the anticipated revenue for the coming year and the falling off in the payment of dues is not so great as has been pictured.

Exhibit "B" of financial report shows that the total amount of dues collected for the year ending December 31, 1931, was \$22,403. The Treasurer's report shows dues already collected to May 20, 1932, \$21,069. We are only short \$1,334.

Your committee feels that the financial affairs of the Association have been carefully handled and are in most excellent condition. We checked the vouchers issued by the Secretary against the books of the Treasurer and find they check correctly. The financial report as submitted by Kessler, Cartall & Company, shows that the books of the Secretary and Treasurer check and are neatly and correctly kept.

Respectfully submitted,
W. H. BREUER, Chairman
W. T. ELAM
D. A. BARNHART
Advisory Members
J. C. B. DAVIS
C. E. HYNDMAN
C. H. NEILSON
EDWIN SCHISLER

Dr. W. H. Breuer, St. James, moved the adoption of the report. Seconded by Dr. Edwin Schisler, St. Louis, and carried.

Dr. A. R. McCOMAS, Surgeon: I have here a resolution left by Dr. Grindon which I would like to read.

There being no objection Dr. McComas read the resolution as follows:

WHEREAS, the need for rehabilitation of citizens of the State of Missouri who have been handicapped by disease or accident is very great; and

WHEREAS, the United States Government has appropriated \$29,000 which will become available for this work in Missouri as soon as this sum is matched by an appropriation of equal amount from the Treasury of this State; and

WHEREAS, the State of Missouri is one of only four States in the Union that are not matching this Federal appropriation by a State appropriation; therefore, be it

Resolved, that the Missouri State Medical Association use all honorable means at their disposal in urging the legislators of the State of Missouri to make this appropriation of \$29,000 and thereby make available \$58,000 for rehabilitation of disabled citizens of our State, be it further

Resolved, that a copy of these resolutions be sent to the Missouri State Senate and one to the House of Representatives.

Dr. A. R. McComas, Surgeon, moved the adoption of the resolution. Seconded and carried.

On motion, the House of Delegates adjourned *sine die*.

MINUTES OF THE COUNCIL

Junior College

Monday, May 23, 1932—First Session

The first meeting of the Council was held immediately following the adjournment of the House of Delegates, being called to order at 12:15 p. m., by the Chairman, Dr. A. R. McComas. On roll call the following answered present:

- 2nd District, W. T. Elam, St. Joseph.
- 4th District, J. B. Wright, Trenton.
- 6th District, J. S. Gashwiler, Novinger.
- 7th District, H. B. Goodrich, Hannibal.
- 8th District, B. Kurt Stumberg, St. Charles.
- 9th District, A. R. McComas, Surgeon.
- 10th District, D. A. Barnhart, Huntsville.
- 11th District, J. H. Timberman, Chillicothe.
- 12th District, Spence Redman, Platte City.

16th District, J. T. Hornback, Nevada.
17th District, Guy Titsworth, Sedalia.
20th District, Ralph L. Thompson, St. Louis.
21st District, N. W. Jarvis, Festus.
22nd District, U. P. Haw, Benton.
26th District, W. H. Breuer, St. James.
27th District, J. C. B. Davis, Willow Springs.
29th District, R. M. James, Joplin.

The report of the Committee on Defense referred to the Council by the House of Delegates contained no recommendations or statements that required action by the Council.

Dr. A. R. McComas, Surgeon, Chairman of the Council, said it might be advisable to request the Auditing Committee to take into consideration a matter that the Executive Committee has had in mind for the past year, namely, to see if the budget could be curtailed in an attempt to save money. He suggested that the chairman of the Postgraduate Committee and the chairman of the Defense Committee, Drs. C. H. Neilson, St. Louis, and C. E. Hyndman, St. Louis, respectively, be invited to participate in the deliberations of the Auditing Committee because these two committees are required to approve the expenditure of money to carry on their activities.

Dr. W. T. Elam, St. Joseph, moved that the Auditing Committee be empowered to make a general survey of the expenditures and the income with a view to reducing expenses as much as possible. Seconded by Dr. W. H. Breuer, St. James.

After a discussion by several members an amendment was offered by Dr. W. H. Breuer, St. James, empowering the Auditing Committee to invite Drs. C. H. Neilson, St. Louis, and C. E. Hyndman, St. Louis, to attend the meetings of the Auditing Committee in an advisory capacity. Seconded and carried.

The original motion by Dr. Elam as seconded was adopted. The Chairman announced the appointment of the Auditing Committee to consist of Drs. W. H. Breuer, St. James; W. T. Elam, St. Joseph; D. A. Barnhart, Huntsville, with Drs. C. H. Neilson, St. Louis; C. E. Hyndman, St. Louis; J. C. B. Davis, Willow Springs, and R. L. Thompson, St. Louis, as advisory members, and any other members that the Auditing Committee desired to call in for advice and counsel.

The President's message and recommendations were discussed. The recommendation made that the Committee on Public Policy be authorized to draft bills to be introduced at the next session of the Legislature to provide better protection of physicians when rendering service to persons injured in accidents along the highways and to invite the cooperation of the Automobile Club of Missouri as well as other organizations that have similar objects in view, was approved.

The recommendation that the Postgraduate Committee cooperate with the Andrew Walker McAlester Memorial Foundation in sending speakers to lay bodies was discussed.

Dr. W. H. Breuer, St. James, moved that the Postgraduate Committee be requested to cooperate with the Andrew Walker McAlester Memorial Foundation to this end in conjunction with the Secretary of the State Medical Association. Seconded by Dr. W. T. Elam, St. Joseph.

The question on Dr. W. H. Breuer's motion was put and carried.

Dr. Spence Redman, Platte City, stated that Platte County Medical Society is cooperating with the school authorities in the examination of school

children by members of the County Medical Society.

The Chairman said there was a health unit in Boone County with a county physician and a nurse to make tours of the county at stated intervals to examine the school children and make appropriate recommendations regarding their health.

The report of the Secretary referred to the Council by the House of Delegates was discussed and on motion by Dr. W. H. Breuer, St. James, seconded by Dr. W. H. Barron, Fredericktown, was adopted.

REPORT OF THE EXECUTIVE COMMITTEE

Dr. A. R. McComas, Surgeon, Chairman, reported that the Executive Committee held a meeting at the Missouri Hotel, May 22, 1932.

A letter from the Association of Artificial Limb Manufacturers was read asking the State Medical Association to endorse the code of ethics adopted by the Association of Limb Manufacturers whereby their business will be kept clean and free from unfair competition among themselves and to cooperate with physicians and surgeons in regard to the proper site and character of amputation, so that an artificial limb may work safely and conveniently. The Executive Committee approved of the code of ethics of the Limb Manufacturers.

Dr. R. M. James, Joplin, moved that the action of the Executive Committee be approved. Seconded and carried.

The Secretary informed the Council of the action of Livingston and Caldwell County Medical Societies to hyphenate and to form the Caldwell-Livingston County Medical Society.

Dr. Spence Redman, Platte City, reminded the Council that the hyphenation of these two societies had been approved at the Annual Meeting of the Council in 1931.

Dr. J. H. Timberman, Chillicothe, said it was his understanding that the hyphenation of these two societies had been approved at the Columbia meeting of the Council in 1931 and that the two counties had proceeded to combine.

Dr. J. H. Timberman, Chillicothe, moved that the Council approve the consolidation of these two societies. Seconded by Dr. Spence Redman, Platte City, and carried.

After a general discussion on the question whether consolidated county societies were entitled to a delegate for each of the societies represented in the consolidation, Dr. R. M. James, Joplin, moved that a county society which had been organized and had sent a delegate to the State Meeting be privileged to continue sending a delegate to the State Meeting if the society consolidated with another society to form a hyphenated organization. Seconded by Dr. J. C. B. Davis, Willow Springs, and carried.

The Secretary read a letter from Dr. Sam H. Snider, Kansas City, Chairman of the Board of Censors of the Jackson County Medical Society, asking the Council to order the expulsion of a member of Jackson County Medical Society because of unethical behavior.

Dr. W. H. Breuer, St. James, moved that the matter be referred back to the Board of Censors of the Jackson County Medical Society for action. Seconded by Dr. W. T. Elam, St. Joseph, and carried.

Dr. B. Kurt Stumberg, St. Charles, in submitting a proposition concerning the St. Louis County Medical Society said the county now has a population between 250,000 and 300,000 and there are more than 200 doctors in the county. They are trying to build up the Society and make a strong organization and have increased the size of the Society very much in the last year or two. In St. Louis County there are eight or ten towns that have a population of from eight to ten thousand, or more. In view of

this fact and as Councilor for that particular county I think it is only fair that we create out of St. Louis County the 30th Councilor District and give them representation not only in the House of Delegates but also in the Council. I present that as a motion.

DR. RALPH L. THOMPSON, St. Louis: In seconding that motion I would like to say that I entirely concur with what Dr. Stumberg has said. We have given this matter much consideration and study and I feel it is the only thing that can be done under the circumstances. The vote on Dr. Stumberg's motion carried.

DR. RALPH L. THOMPSON, St. Louis: As a logical sequence to that action I would like to move that Franklin County, which is now in the 20th District, be transferred to the 8th District. Seconded by Dr. W. H. Breuer and carried.

THE CHAIRMAN: We will now have the reports of the Councilors.

Reports of Councilors were made by Dr. W. T. Elam, St. Joseph, 2nd District; Dr. J. B. Wright, Trenton, 4th District; Dr. J. S. Gashwiler, Novinger, 6th District; Dr. H. B. Goodrich, Hannibal, 7th District; Dr. B. Kurt Stumberg, St. Charles, 8th District; Dr. A. R. McComas, Sturgeon, 9th District; Dr. D. A. Barnhart, Huntsville, 10th District; Dr. J. H. Timberman, Chillicothe, 11th District; Dr. Spence Redman, Platte City, 12th District; Dr. J. T. Hornback, Nevada, 16th District; Dr. Guy Titsworth, Sedalia, 17th District; Dr. N. W. Jarvis, Festus, 21st District; Dr. U. P. Haw, Benton, 22nd District; Dr. W. H. Breuer, St. James, 26th District; Dr. J. C. B. Davis, Willow Springs, 27th District; Dr. R. M. James, Joplin, 29th District.

Dr. R. L. Thompson, St. Louis, Councilor of the 20th District, requested that his report be received without reading and published in THE JOURNAL because of the length of the report and the lateness of the hour.

On motion adjourned until May 25.

Wednesday, May 25, 1932—Second Session

The second meeting of the Council was held May 25, immediately following the adjournment of the House of Delegates, the Chairman, Dr. A. R. McComas, Sturgeon, presiding.

On motion the reading of the minutes of the last meeting was dispensed with.

On motion by Dr. W. H. Breuer, St. James, duly seconded, the report of the Auditing Committee as read to the House of Delegates was adopted by the Council.

The election of officers for 1932-1933 resulted in the reelection of the following:

Chairman of Council, Dr. A. R. McComas, Sturgeon.

Vice Chairman of Council, Dr. W. H. Breuer, St. James.

Secretary of Association, Dr. E. J. Goodwin, St. Louis.

Treasurer of Association, Dr. G. W. Hawkins, Salisbury.

Executive Committee: Dr. A. R. McComas, Sturgeon, Chairman; Dr. W. H. Breuer, St. James, Vice Chairman; Dr. Ralph L. Thompson, St. Louis.

The Council adjourned *sine die*.

MINUTES OF THE GENERAL MEETING

Junior College, Jefferson City, Tuesday, May 24, 1932—Morning Session

The scientific sessions were held in the Junior College, the first convening at 9 o'clock, Tuesday morning, May 24, with the President, Dr. J. F. Harrison, Mexico, in the Chair.

PRESIDENT HARRISON: Fellow members of the Missouri State Medical Association and Guests: We are very fortunate today in having on our program one of whom we Missourians are proud, a man who by his official and personal acts has shown great regard and respect for the medical profession, to which we are all devoted. In the conduct of eleemosynary institutions and such things that come under the province of the Eleemosynary Board we have been impressed with the manner in which these institutions have been conducted.

It is now my great privilege to present to you His Excellency, the Honorable H. S. Caulfield, Governor of the State of Missouri. He needs no introduction to Missouri doctors.

ADDRESS OF WELCOME

GOVERNOR CAULFIELD: Mr. President and Doctors—It is a great pleasure to me to have the privilege of welcoming your splendid Association to the capital of Missouri. We are always proud to have guests come from over the State to see our capital. We like to tell them that we believe it is the most beautiful capitol building in the United States. I might say to you that there is not an apple in town—we have done our best to get all the doctors to come.

I wish I could express my high regard and the regard of all our people for the medical profession. Some doctor is dear to the heart of every man, woman and child in the world because every man, woman and child at some time or other has needed the care and felt the tenderness and solicitude of some physician. We ought to be proud, we are proud of your profession.

We are living in an age of advancement in industry and in science, and as you perhaps best know, the greatest advancement has been in your profession. The progress the doctors have attained at this time was beyond the imagination one hundred years ago, and at present it seems that you are just in the beginning of a tremendous development in medical science.

There is one thing I like to remind myself of, as well as you. For years we Americans have had a kind of inferiority complex as regards Europe. In everything that was cultural, we were supposed to be below par. And that was true in the science of medicine. For the last sixty years or more there has been a mighty trek of doctors to Europe and Asia to learn about their profession. The thing that fills my heart with pride is to know that the trend is now the other way; that today there are hundreds of men from Europe and Asia studying in the research laboratories of America. Our doctors went to Europe because all the great leaders in medicine were there; they are coming to America because today the great leaders in medicine are here. That is the result of your work and unselfish devotion. I am not just trying to say something nice to please you, I believe it in my heart that there is no more unselfish group on earth than the doctors. They serve the rich and the poor; they are always serving humanity. There is something akin to religion in the service to which you have consecrated your lives. Indeed, the thing that mankind associates most with the Saviour is the fact that He healed men of their afflictions and their ills.

We have a relation to your profession as State officials. It has come to be recognized that preventive medicine is of vast importance and that many diseases are social rather than individual, and it has become a problem of the government to prevent disease. We are just beginning to realize that in Missouri. In going over the history of Missouri for one hundred years as I have had occasion to do in making a centennial address, I am amazed to find that the work in public health in Missouri did not begin until 1921. Previous to that time the Board of Health was in large measure nothing but a medical licensing bureau. Today it has grown to a considerable extent. We need the aid of the doctors in carrying on that great work. We have in our eleemosynary institutions some nine or ten thousand mentally ill. It is the work of the doctors to attend them, and there we have a very close association.

May I say something that I have no right to boast of except that it happened in my administration, but something of which I am very proud and I tell it all over Missouri as if I had done it. For years our prison here has had several thousand convicts, with a good doctor part time. But it is pretty hard for a doctor to attend to 4,000 or 4,500 subnormal men, or abnormal men, in an hour or two a day. We have at least made this progress, that the Legislature was prevailed upon at the last session to increase the pay of the physician so that he could give his entire time to that work, and as a result of that we have had our little hospital over there, in its sordid surroundings and with its old, ramshackle building, placed on the accredited list of the American Col-

lege of Surgeons. There is only one other penitentiary in the United States, Sing Sing, that has that distinction. We are proud of that, and I hope we will be able to develop it to a greater extent even in that institution.

I have taken more of your time than I had intended. I came here only to greet you, to welcome you to our capital and to hope that you will have a splendid convention. You know I believe in conventions. I think they have a great purpose. When people are interested in a common work, a common project, there is no better way to forward it than to get together, even socially. The social part of these meetings is very important. You get to know one another, and when fine men such as are here get to know one another they get to like one another, and when people like one another they will carry their project to a successful end and that is what you desire.

THE PRESIDENT: Governor Caulfield, on behalf of the Missouri State Medical Association I wish to thank you very much for your kind remarks.

DR. JOSEPH GRINDON, St. Louis, Vice President in the Chair: We have all enjoyed the Governor's remarks. I think we can all agree with him in what he said about our capitol building, among other things. We have a capital capitol in our capital, and I think we can add that we have a capital Governor in our capitol, so there is much capital in our capitol, and there is no danger of such a government going broke.

We will now hear the address of our President, Dr. J. F. Harrison of Mexico, who has chosen to speak upon a subject which is very near to us.

Dr. J. F. Harrison, Mexico, President, delivered an address entitled "Organized Medicine and Its Debt to the Community." (See page 287.)

DR. GRINDON: We have heard a most stimulating address.

Our President reigns over us, but we also have an heir-apparent in the President-Elect. I take great pleasure in presenting Dr. Joseph W. Love, President-Elect.

Dr. Joseph W. Love, Springfield, delivered the address of the President-Elect. This will appear in a subsequent issue.

The following papers were read in the Symposium on Diseases of the Kidney:

"A Clinical and Pathological Study of Glomerulonephritis and Nephrosis," by Dr. E. T. Bell, Minneapolis, Minn.

"Treatment of Nephritis," by Dr. Donald R. Black, Kansas City.

"Tuberculosis of the Kidney," by Dr. John R. Caulk, St. Louis.

"Tumors of the Kidney," by Dr. C. E. Burford, St. Louis.

"Stones and Pyogenic Infections," by Dr. R. Lee Hoffmann, Kansas City.

Dr. Nelse F. Ockerblad, Kansas City, read a paper on "The Correction of Prostatic Obstructions and Vesical Neck Deformities by Means of the Resectoscope."

Dr. H. H. Kramolowsky, St. Louis, read a paper entitled "Urological Diagnosis: Motion Pictures."

Dr. Warren R. Rainey, St. Louis, read a paper on "Colostomy."

There was no discussion of the above papers.

Tuesday, May 24, 1932—Afternoon Session

The second scientific session of the Annual Meeting convened Tuesday afternoon at 1:30 o'clock.

Dr. M. Hayward Post, St. Louis, read a paper entitled "Incipient Cataract: Its Incidence and Care." There was no discussion of this paper.

Dr. Emmett P. North and Dr. Vincent L. Jones, St. Louis, presented a paper entitled "Retinal Detachment Subsequent to Proliferative Changes of Pigment Epithelium Simulating Neoplasm." This

paper was discussed by Dr. H. D. Lamb, St. Louis.

Dr. A. N. Lemoine, Kansas City, read a paper entitled "Advances in Ophthalmology." Discussed by Dr. C. Souter Smith, Springfield.

Dr. A. W. McAlester, Jr., Kansas City, read a paper entitled "Headaches of Ocular Origin." There was no discussion of this paper.

Dr. H. D. Lamb, St. Louis, read a paper entitled "Foci of Attack in the Prevention of Blindness in Missouri." There was no discussion of this paper.

The following papers were read in the Symposium on Carcinoma of the Breast:

"Clinical Manifestations of Diseases of the Breast," by Dr. Jabez N. Jackson, Kansas City.

"Some Facts Concerning a Series of One Hundred Twenty-Nine Cases of Cancer of the Breast Seven Years After Operation," by Dr. John H. Ogilvie, Kansas City.

"Roentgen Ray Examination of the Breast," by Dr. Ira H. Lockwood, Kansas City.

"The End-Results in the Treatment of Cancer of the Breast," by Dr. Burton J. Lee, New York City.

This symposium was discussed by Drs. Francis Reder, St. Louis; J. G. Moore, Mexico; Joseph Grindon, St. Louis; Jabez N. Jackson, Ira H. Lockwood and Burton J. Lee, in closing.

Dr. Fred Emmert, St. Louis, read a paper entitled "The Care of the Breasts During Pregnancy and Puerperium."

Dr. Edgar Allen, Columbia, read a paper entitled "Hormone Control of Changes in the Endometrium During the Menstrual Cycle."

Tuesday, May 24, 1932—Evening Session

The Tuesday evening session was opened by the presentation of a moving and talking picture, "The Lake of the Ozarks (Bagnell Dam)."

THE PRESIDENT: The first speaker of the evening is Dr. Joseph Grindon, of St. Louis.

Dr. Joseph Grindon, St. Louis, delivered an address entitled "A Retrospect of Eighty-Three Years; Celebrating the Seventy-Fifth Annual Session of the Missouri State Medical Association."

THE PRESIDENT: It is my pleasure now to present to you a distinguished member of the Missouri State Medical Association, a past president of the American Medical Association, Dr. Jabez N. Jackson of Kansas City, who will introduce the next speaker.

DR. JABEZ N. JACKSON: Mr. Chairman and Gentlemen: It would be assuming too much to attempt to introduce the President of the American Medical Association to this audience. You are all familiar with him, by hearsay if not in person. This gentleman has been an intimate friend of mine for a good many years, one of the men who, when we were pioneering in an effort to secure the organization of the Southwest, aided us in every way and proved himself a real friend.

He is a man of remarkable characteristics. He is a specialist, belonging to that triad, ear, nose and throat—the men who in the last few years have gotten rich. This man has not only made good professionally, but he has shown great organizing powers. Pioneering in the cause of medical education in this country, he established at Dallas a medical school which is now operated in conjunction with Baylor University—Cary's child. He is the man who built a great building known as the Medical Arts Building in the City of Dallas, and which is pointed out to you when you go there. So he is a successful organizer, a specialist of repute, a business man, and then to top off his work he is

now President of the American Medical Association. I take off my hat to him, and I am pleased to introduce Dr. Edward H. Cary.

DR. EDWARD H. CARY: Mr. President, Dr. Jackson, Ladies and Gentlemen: This thing of being the President of the American Medical Association requires me to go to many places, and often I am crowded somewhat for time. Recently I had an invitation to go to Des Moines and my friend, Dr. Barnes, wrote me that I would reach there on the 4:45 train, but if I preferred the American Airways they would make every provision for my comfort. But not being air-minded, I told him that I had decided to use Col. Buckner's steer.

Down in Texas the Texas and Pacific Railroad runs west from Dallas to El Paso and Col. Buckner has a big ranch, the south line of which parallels the Texas and Pacific Railroad. Recently a couple of gentlemen were sent down there who were interested in drilling on his land for oil. The Colonel was much interested in making a good impression and he tells a good story, so he told them about his remarkable steer. He said, "My friends, this steer will start with the Sunshine Special on the east line in the morning and he will out-race that train to the west line, twenty-five miles. He will browse about a bit, drink a little water, and meet the eastbound train at the west line and out-race that train to the east line, twenty-five miles." These gentlemen were much impressed, and the next day thought they would go out to the ranch to see that steer. But the Colonel had some forebodings, so he told his "nigger" that if those gentlemen came to see him to say he was not home. They came and asked for the Colonel and were told he was not at home. "Where has he gone?" "To Dallas, St. Louis, Cincinnati, Indianapolis, Chicago, Omaha and Kansas City." "When will he be back?" "In two days." "Well," they said, "what we wanted anyway was to see his steer." "But gemman, the Cunnel he's ridin' that steer!"

Yesterday I was in Atlantic City; tonight I am here, and if I have to keep this up I will in all probability have to get Col. Buckner's steer.

Dr. Cary then delivered his address on "The Sequential Development of Physical Sciences."

DR. JABEZ N. JACKSON: I am proud to introduce the next speaker, Dr. Burton J. Lee of New York City. Dr. Lee, whom I have known for a good many years, has been particularly interested in the subject of cancer, working in the great Memorial Hospital in New York, where he has every opportunity and probably knows as much about the subject of cancer as any living man. I have great pleasure in introducing Dr. Burton J. Lee.

Dr. Lee delivered an address on "Indications for Surgery and the Indication for Irradiation in the Treatment of Cancer."

Dr. E. T. Bell, Minneapolis, read a paper entitled "A Clinical and Pathological Study of Primary Hypertension."

Wednesday, May 25, 1932—Morning Session

Dr. A. M. Tripodi and Dr. Charles F. Sherwin, St. Louis, presented a paper entitled "Experimental Transplantation of the Pancreas into the Stomach. Preliminary Report." Discussed by Dr. August G. Pohlman, St. Louis.

The following papers were read in the Symposium on Syphilis:

"Syphilis of the Circulatory System," by Dr. Wm. S. Middleton, Madison, Wis.

"Syphilis of the Nervous System," by Dr. Sidney I. Schwab, St. Louis.

"Syphilis of the Osseous System," by Dr. Archer O'Reilly, St. Louis.

"Effect of Malarial Therapy on the General Syphilitic," by Dr. Charles C. Dennie, Kansas City.

"Presence of Syphilis in Compensation Cases From the Standpoint of the Workmen's Compensation Commission," by Mr. J. J. James, Kansas City.

"Presence of Syphilis in Compensation Cases From the Standpoint of the Physician," by Dr. Paul F. Stookey, Kansas City.

These papers were discussed by Drs. Sinclair Luton, St. Louis; C. A. Stone, St. Louis; Wm. S. Middleton, Madison, Wis.; Archer O'Reilly, St. Louis; E. S. Smith, Kirksville, and Mr. J. J. James, Kansas City.

Dr. Paul S. Lowenstein, St. Louis, read a paper entitled "Respiratory Infections that Mimic Appendicitis: Their Importance to the Surgeon."

Discussed by Drs. Hudson Talbot, St. Louis; Wm. T. Coughlin, St. Louis.

Dr. C. C. Pflaum, Columbia, read a paper entitled "A Postmortem Analysis as to the Etiology in Seven Hundred Forty-Two Cases of Peritonitis."

The paper of Dr. A. L. Anderson, Springfield, on "The Value of Routine Basal Metabolism in the Examination of Patients" was read by title.

Wednesday, May 25, 1932—Afternoon Session

Dr. B. Landis Elliott, Kansas City, read a paper entitled "The Diagnosis of Cerebellar Disease."

Discussed by Drs. Wm. T. Coughlin, St. Louis; Francis M. Barnes, St. Louis; E. Lee Myers, St. Louis, and B. Landis Elliott, Kansas City.

Dr. Emsley T. Johnson, Kansas City, read a paper entitled "Cinchophen Poisoning: Clinical and Experimental Evidence."

Dr. B. L. Myers, Kansas City, read a paper entitled "Peripheral Burns: Their Pathology and Treatment."

Dr. W. C. Gayler, St. Louis, read a paper entitled "Indications for Cesarean Section."

Dr. B. Y. Glassberg, St. Louis, read a paper entitled "The Differentiation of True Diabetes and Pseudodiabetes."

The paper of Dr. Joseph D. James, Springfield, entitled "Improved Hospital Service and the Public," was read by title.

Dr. Sinclair Luton, St. Louis, read a paper entitled "The Clinical Use of Digitalis."

There was no discussion of these papers.

Thursday, May 26, 1932—Morning Session

The following papers were read in the Symposium on Diseases of the Ear, Nose and Throat:

"Sinus Disease," by Dr. E. S. Connell, Kansas City. Discussion by Drs. Charles E. Fallet, De Soto; Selden Spencer, St. Louis; W. E. Sauer, St. Louis, and E. S. Connell in closing.

"Mastoid Disease," by Dr. Selden Spencer, St. Louis. Discussion by Drs. W. E. Sauer, St. Louis; E. S. Connell, Kansas City; and Selden Spencer.

"Sinus Thrombosis," by Dr. W. E. Sauer, St. Louis. Discussion by Drs. Selden Spencer, St. Louis; E. S. Connell, Kansas City, and W. E. Sauer.

"Thymic Deaths," by Dr. Harry M. Gilkey, Kansas City. Discussion by Drs. Stanley P. Howard, Jefferson City; Urban J. Busiek, Springfield; J. S. Summers, Jefferson City; E. S. Smith, Kirksville; and Harry M. Gilkey.

Dr. G. V. Stryker, St. Louis, read a paper en-

titled "Keratosis of the Face and Hands." Discussion by Drs. A. H. Conrad, St. Louis; M. F. Engman, Jr., St. Louis; Norman Tobias, St. Louis.

Dr. M. F. Engman, Jr., St. Louis, read a paper entitled "The Pathogenesis of Acne Vulgaris."

Dr. Norman Tobias, St. Louis, read a paper entitled "The Modern Management of Acne Vulgaris."

These two papers were discussed by Drs. G. V. Stryker, St. Louis; A. H. Conrad, St. Louis; Edward E. Mansur, Jefferson City; and M. F. Engman, Jr., and Norman Tobias.

Dr. A. H. Conrad, St. Louis, read a paper entitled "Precancerous Lesions of the Skin." Discussion by Drs. M. F. Engman, Jr., St. Louis; G. V. Stryker, St. Louis.

Dr. E. Sanborn Smith, Kirksville, read a paper entitled "The Problem of the Narcoleptic." Discussion by Dr. Alphonse McMahon, St. Louis.

Thursday, May 26, 1932—Afternoon Session

Dr. G. Wilse Robinson, Jr., Kansas City, read a paper entitled "The Indefensible Use of Morphine by the Medical Profession." Discussion by Drs. Edward E. Mansur, Jefferson City; and G. Wilse Robinson, Jr.

Dr. A. P. Munsch, St. Louis, read a paper entitled "Arthritis." Discussion by Dr. O. P. J. Falk, St. Louis.

Dr. Daniel E. Kauffman, St. Louis, read a paper entitled "Arthritis of the Knee."

Dr. Lloyd B. Clinton, Carthage, read a paper entitled "Pediatric Surgery." Discussion by Drs. Sam H. Snider, Kansas City; Irl B. Krause, Jefferson City.

Dr. E. E. Glenn, Mount Vernon, read a paper entitled "Types of Onset in Pulmonary Tuberculosis." Discussion by Dr. Sam H. Snider, Kansas City.

Dr. Earl C. Padgett, Kansas City, read a paper entitled "Surgical Rest and Compression for Pulmonary Tuberculosis: A Resumé of the Rationale, Indications and Results." Discussion by Dr. Sam H. Snider, Kansas City.

Dr. H. I. Spector, St. Louis, read a paper entitled "Recent Advances in the Etiology and Treatment of Acute and Chronic Suppuration of the Lungs."

Dr. John F. Chandler, Oregon, read a paper entitled "Dispensing As An Art."

There was no discussion of these two papers.

On motion the 75th Annual Meeting of the Missouri State Medical Association adjourned *sine die*.

N. B. For registration at Annual Meeting see page 340.

BUCHANAN COUNTY MEDICAL SOCIETY

Meeting of May 4

The regular meeting of the Buchanan County Medical Society was held at the Missouri Methodist Hospital, St. Joseph, May 4, at 8 p. m., with sixty-five members present. The president, Dr. A. E. Burgher, St. Joseph, presided.

Dr. Caryl Potter, St. Joseph, moved that a vote of thanks be extended to the committee of the St. Joseph Clinical Society for the successful manner in which they conducted the recent clinic. The motion was seconded and carried.

Dr. W. T. Elam, St. Joseph, resigned as delegate to the State Meeting at Jefferson City and Dr. J. F. Owens was elected in his place.

An interesting paper on "Pseudo-Arthrosis" was presented by Dr. Gustav A. Lau, St. Joseph. The discussion which followed was participated in by Drs. Jacob Geiger, Caryl Potter, W. F. Schmidt and Floyd Spencer; Dr. Lau in closing.

Meeting of May 18

The regular meeting of the Buchanan County Medical Society was held at the Chamber of Commerce Club rooms at 8 p. m. on May 18.

The meeting was called to order by the president, Dr. A. E. Burgher, St. Joseph. On account of it being an open meeting the reading of the minutes of the previous meeting was postponed and no business was transacted except the reading of a letter from the Buchanan County Society for Crippled Children urging the doctors of this Society to take part in the free clinic which will be held May 21 at 8:30 a. m. at the Chamber of Commerce Club rooms.

Dr. H. J. Ravold, St. Joseph, delivered the address of the evening on the subject "Cancer Problem" after which two motion pictures of the American Society for the Control of Cancer were shown. A large and appreciative audience made up of doctors, nurses, interns and technicians enjoyed the meeting.

After the showing of the pictures the Society adjourned until June 1.

Meeting of June 1

The regular meeting of the Buchanan County Medical Society was called to order by the president, Dr. A. E. Burgher, St. Joseph, at 8 p. m. at the Missouri Methodist Hospital.

The minutes of two previous meetings were read and approved.

A motion by Dr. G. A. Lau, St. Joseph, which was duly seconded and amended by Dr. W. T. Elam, St. Joseph, that the president of this Society appoint a committee of three veterans to confer or act in conjunction with the committees from our two hospitals for the purpose of investigating the activities of the various veteran organizations especially in regard to the building of hospitals for the maintenance of families of veterans.

A motion was made by Dr. A. B. McGlothlan, St. Joseph, and seconded, that Dr. Charles Greenberg, St. Joseph, be asked to attend our next meeting and report on the present status of the venereal clinic.

The committee on necrology made the following report on the death of Dr. Julius Kangisser which was unanimously adopted and a copy ordered sent to his widow:

Dr. Julius Kangisser, a member of this Society, passed to his reward on March 25 of this year at the Missouri Methodist Hospital at the age of 46.

Dr. Kangisser was born in Russia and received his early education there. He came to America at the age of sixteen years and although handicapped by the necessity of learning a new language, he graduated from the St. Louis University School of Medicine in 1912 and for two years served as an intern in hospitals at Louisville, Kentucky, and Chattanooga, Tennessee. He also spent some time in Canada before moving to St. Joseph and during the World War was a captain in the medical corps of the Canadian Army. After his discharge he returned to St. Joseph and practiced his profession until his last illness.

He had been a member of the Buchanan County Medical Society since 1923, took an active part in the affairs of this Society and always showed a great interest in his profession. He was a member of the staff of both hospitals and an ethical and honorable member of the profession.

LEROI BECK, M.D.
G. D. WRIGHT, M.D.
W. T. STACY, M.D.

Committee.

Dr. W. T. Elam, Councilor from this district, in a very interesting talk made a report on the general condition of the profession throughout the State as gleaned by him at the recent State Association Meeting held in Jefferson City.

EMMETT F. COOK, M.D., Secretary.

REGISTRATION AT SEVENTY-FIFTH ANNUAL MEETING

Jefferson City, May 23-26, 1932

- *Abney, Mary Caroline, Columbia
 *Abney, W. L., Blackwater
 Aiken, George A., Marshall
 Aldridge, M. R., Jefferson City
 Alford, R. Lee, Vandalia
 Allee, W. L., Eldon
 *Allen, Edgar, Columbia
 Allen, Hollis N., St. Louis
 *Aloe, Mr. H. M., St. Louis
 Altheide, J. P., St. Louis
 Anderson, A. L., Springfield
 *Anderson, Mr. E. J., Columbia
 Armstrong, John H., Kirkwood
 Arnold, Eugene, Columbia
 *Aufranc, Otto, Columbia
 Ault, Charles C., Fulton
 Baehr, John H., Hermann
 *Baker, Mr. Jim, Columbia
 Barger, J. N., Albany
 Barnes, Francis M., Jr., St. Louis
 Barnhart, D. A., Huntsville
 Barron, W. H., Fredericktown
 *Bartelsmeyer, Mr. E. H., St. Louis
 Bartlett, Willard, Jr., St. Louis
 Baskett, E. D., Columbia
 Battersby, R. S., Columbia
 Baumgarten, Walter, St. Louis
 Baysinger, S. L., Rolla
 Beaty, J. G., Chilhowee
 Beckemeyer, William A., Sedalia
 *Becker, R., Columbia
 Bedford, S. V., Jefferson City
 *Bell, E. T., Minneapolis, Minn.
 Berrey, Robt. W., Mexico
 *Biesemeyer, L. F., Chamois
 Black, D. R., Kansas City
 Bloom, W. A., Fayette
 Boger, J. W., Sedalia
 Bohling, Cord, Sedalia
 Bohne, Wm. R., St. Louis
 Bonham, V. Q., Fayette
 *Bradley, C. F., Columbia
 Braecklein, Wm. A., Higginsville
 Brashear, H. C., Mexico
 Breuer, W. H., St. James
 Bristow, A. S., Princeton
 Brown, Joel C., Lewistown
 Bruce, J. G., Jefferson City
 Bruner, Claude R., Columbia
 Buck, U. G., Rothville
 Buckingham, William W., Kansas City
 Burford, C. E., St. Louis
 Burke, J. P., California
 Busiek, U. J., Springfield
 Butler, T. R., Lexington
 Caldwell, Chas. W., Slater
 Callaway, G. D., Springfield
 Calvert, L. C., Weston
 *Calvin, Mr. D. B., Columbia
 Camp, George H., Springfield
 Campbell, A. J., Sedalia
 *Caples, Mr. Jos. T., Columbia
 Carbaugh, Glenn C., Kansas City
 *Cary, E. H., Dallas, Texas
 Caulk, J. R., St. Louis
 Chalkley, A. Judson, Lexington
 Chamberlain, G. L., New Franklin
 *Visitor
 Chandler, John F., Oregon
 Chenoweth, L. C., Joplin
 Child, Scott P., Mt. Vernon
 *Clark, Mr. G. T., Kansas City
 Clark, W. A., Jefferson City
 Clarke, H. M., Platte City
 *Cline, Mr. E. W., Columbia
 Clinton, Lloyd B., Carthage
 Cochran, O. W., Boonville
 Coil, Paul E., Mexico
 Cole, Paul F., Springfield
 Conley, D. S., Columbia
 Connell, Evan S., Kansas City
 Conrad, Adolph H., St. Louis
 Cook, Emmett F., St. Joseph
 Cook, F. L., Independence
 Coonse, G. Kenneth, Columbia
 Cooper, Calvin, Kansas City
 Cooper, L. L., Nevada
 Cooper, Maurice E., Columbia
 Cope, J. Q., Lexington
 Cotton, T. W., Van Buren
 Coughlin, W. T., St. Louis
 Cox, Lee, Springfield
 *Creed, Mr. J. W., Columbia
 Crews, R. N., Fulton
 Crider, A. J., Dixon
 *Cruse, L. F., Osage City
 Davis, J. C. B., Willow Springs
 Davis, P. C., Moberly
 Dawson, J. W., Eldorado Springs
 Dean, J., St. Louis
 Delzell, W. A., Springfield
 Dennie, C. C., Kansas City
 Denny, R. B., Creve Coeur
 Dexheimer, Frank E., Columbia
 Diehr, A. H., St. Louis
 Dietrich, Karl D., Columbia
 Diveley, R. L., Kansas City
 Dixon, C. H., Moberly
 Dorris, R. P., Jefferson City
 Dorsett, E. Lee, St. Louis
 *Ducker, Mr. H. E., Columbia
 Duncan, Ralph E., Kansas City
 Dyer, C. P., Webster Groves
 Dyer, John H., Warrenton
 Dysart, W. P., Columbia
 Elam, W. T., St. Joseph
 Elliott, B. Landis, Kansas City
 Emmert, Fred, St. Louis
 Engman, Martin F., Jr., St. Louis
 Enloe, Cortez F., Jefferson City
 Enloe, L. D., Jefferson City
 Evans, J. Lane, Brookfield
 Falk, O. P. J., St. Louis
 Fallet, C. E., De Soto
 Farthing, R. R., Ozark
 Feller, C. E., Springfield
 Ferguson, Arthur D., Fulton
 Ferrell, W. R., Belle
 Fischel, Ellis, St. Louis
 Fischer, John G. W., Alma
 Flynt, J. F., Paris
 *Forbis, C. F., New Hampton
 Ford, William, Mexico
 Forgrave, L. R., St. Joseph
 *Francisco, C. B., Kansas City
 Francka, W. F., Hannibal
 *Freeman, Mr. Hal, Columbia
 Frick, J. P., Kansas City
 Funsch, E. C., St. Louis
 Gallagher, W. J., St. Louis
 Gashwiler, J. S., Novinger
 Gaston, S. E., Meta
 Gayler, W. C., St. Louis
 Gerwig, H. E., Downing
 Gifford, Allen W., Springfield
 Gilkey, Harry, Kansas City
 Gillham, F. W., Jefferson City
 Gilliland, O. S., Kansas City
 *Gist, Mr. W., Columbia
 Glassberg, Bertrand Y., St. Louis
 Glenn, E. E., Mt. Vernon
 Glennon, Wm. P., St. Louis
 Glover, C. S., Russellville
 *Goalwin, H., Fort Leavenworth, Kansas
 Goodrich, H. B., Hannibal
 Goodwin, E. J., St. Louis
 Gove, H. S., Linn
 Grace, H. M., Chillicothe
 Gradwohl, R. B. H., St. Louis
 Green, Stanley L., Independence
 *Greene, C. W., Columbia
 Griffin, Fred, Mexico
 *Grimes, Mr. M. E., Columbia
 Grindon, Joseph, St. Louis
 Grogan, F. M., Nevada
 *Gulick, Mr. Addison, Columbia
 Gum, P. D., West Plains
 Gunn, A. J., Versailles
 Gunn, W. G., Versailles
 Guyot, J. D., Higginsville
 Hall, Oscar B., Warrensburg
 Hanks, Ralf, Farmington
 Harms, F. L., Salisbury
 Harned, W. J., Bethany
 Harrell, R. E., Urbana
 Harris, H. W., Canton
 *Harrison, F. A., Springfield
 Harrison, J. F., Mexico
 Hartwell, B. O., Drexel
 Harwell, J. L., Poplar Bluff
 *Harwell, Mr. J. Lester, Columbia
 Haw, U. P., Benton
 Hawkins, G. W., Salisbury
 Hawkins, W. R., Glasgow
 Hays, B. W., Jackson
 H'Doubler, Francis T., Springfield
 *Heidman, A. C., Columbia
 Helman, Richard G., Kansas City
 Henderson, Frank B., Kansas City
 *Hendre, Mr. G. W., Columbia
 *Herington, A. W., Jefferson City
 Herington, Warner, Green City
 *Herman, Mr. A. I., Columbia
 Hess, H. L., Kansas City
 Hicks, E. A., Troy
 Hill, James A., Jefferson City
 *Hire, Mr. Harry E., St. Louis
 Hobart, Carl A., St. Louis
 Hoctor, Emmett F., Farmington
 Hodgeboom, Roche W., Springfield
 *Holder, Mr. R. W., Kansas City
 *Hollingsworth, Mr. C., Columbia
 Hornback, J. T., Nevada
 Horwitz, A. E., St. Louis
 Howard, F. A., Slater
 Howard, S. P., Jefferson City
 Howden, T. L., St. Joseph
 Howe, Louis F., Columbia
 Hunt, C. J., Kansas City
 Hyland, R. F., St. Louis
 Hyndman, Chas. E., St. Louis
 *Jackson, Mr. Douglas A., Columbia
 Jackson, Jabez N., Kansas City
 *James, Mr. J. J., Kansas City
 James, L. S., Blackburn
 James, R. M., Joplin
 Jarvis, N. W., Festus
 Jennett, J. Harvey, Kansas City
 Jennings, P. W., Canton
 Johns, G. A., St. Louis
 Johnson, Emsley, Kansas City
 Johnson, G. C., St. Charles
 Johnson, Wm. E., Warrensburg
 Johnston, E. L., Concordia
 Johnston, W. W., Cape Girardeau
 Jolley, J. F., Mexico
 Jones, Garnett, St. Louis
 Jones, Harry L., Kansas City
 *Jones, Mr. John Walker, Columbia
 Jones, O. H., Vienna
 Jones, V. L., St. Louis
 Jones, W. G., Sedalia
 Kampschmidt, A. W., Columbia
 Kauffman, Daniel E., St. Louis
 Kennedy, T. R., St. Louis
 Kenner, E. B., Wentzville
 Kerr, H. L., Crane
 Kibbe, E. A., California
 Kieffer, Roland S., St. Louis
 Kinard, Kerwin, Kansas City
 Klinefelter, M. L., St. Louis
 Klingner, Thos. O., Springfield
 Kneibert, F. L., Poplar Bluff
 Knight, John S., Kansas City
 Koch, O. W., Clayton
 Koppenbrink, W. E., Higginsville
 Kouns, D. H., Tusculumbia
 Kramolowsky, H. H., St. Louis
 Krause, Irl B., Jefferson City
 Kuhlmann, F. C. E., St. Louis
 Lamb, Harvey D., St. Louis
 Lane, Clinton W., St. Louis
 Langsdorf, Herbert S., St. Louis
 Lapp, John G., Kansas City
 Lapp, T. S., Fulton
 *Laybourn, Mr. R. L., Jefferson City
 Leach, H. T., Elston
 *Leadlove, F., St. Louis
 *Lee, Burton J., New York City, N. Y.
 Leighton, W. E., St. Louis
 *Lemoe, David, Columbia
 Lemoine, A. N., Kansas City
 Leslie, J. T., Jefferson City
 Leslie, James F., Springfield
 Leslie, W. L., Russellville
 *Libby, Robert G., Columbia
 Liston, E. H., Nevada
 Liston, Odus, Oak Grove
 Lockwood, Ira H., Kansas City
 Long, David S., Harrisonville
 Long, Frank B., Sedalia
 Love, Joseph W., Springfield
 Love, William S., Charleston
 Lowe, H. A., Springfield

Lowenstein, Paul S., St. Louis
Luman, F. E., Edina
Luton, Sinclair, St. Louis
McAlester, A. W., Kansas City
McAlester, A. W., Sr., Kansas City
McCall, G. D., Fulton
McComas, A. R., Sturgeon
McCormick, F. L., Moberly
McCubbin, J. B., Fulton
McMahon, A., St. Louis
McMurry, Marvin C., Paris
McNay, A. L., Pacific
McVay, J. R., Kansas City
Mallette, Cyrus, Crocker
*Maneval, Karl E., Columbia
Manning, David F., Marshall
Mansur, E. E., Jefferson City
Mantz, Herbert L., Kansas City
Maples, F. H., Marshall
Marshall, A. H., Charleston
Martin, Wilfred E., Odessa
*Martiz, D., St. Louis
May, H. A., Washington
*Meinershagen, C. Wm., Columbia
*Merryman, M. P., Columbia
Meyer, L. A. T., Jefferson City
*Middleton, W. S., Madison, Wis.
*Miller, A. E., Columbia
Miller, D. Evelyn, Salisbury
Miller, D. Herbert, Salisbury
Miller, E. Lee, Kansas City
Mills, Joseph W., Owensville
Monroe, A. E., Sedalia
Moore, H. M., St. Louis
Moore, J. G., Mexico
*Morris, H. E., Columbia
Morse, Frank, St. Louis
Morton, Daniel, St. Joseph
*Mulkay, James R., Columbia
Munsch, A. P., St. Louis
Murray, J. W., Quincy
Murray, L. V., Pleasant Hill
Mussion, E. K., Eldorado Springs
Myers, Benjamin L., Kansas City
Myers, E. Lee, St. Louis
Narr, Frederick C., Kansas City
Neal, M. Pinson, Columbia
Neilson, C. H., St. Louis
Nelson, C. S., Kansas City
Nichols, Frank J., Centertown
Nienstedt, Elam J., Blodgett
Nifong, Frank G., Columbia
Norman, Joseph B., Tipton
Norman, R. M., Ava
Norris, W. A., Columbia
North, E. P., St. Louis
Norton, W. H., St. Louis
Ockerblad, Nelse F., Kansas City
Ogilvie, John H., Kansas City
Ogle, O. L., St. Louis
Oliver, E. A., Richmond
O'Reilly, Archer, St. Louis
Overholser, M. D., Columbia
Overholser, M. P., Harrisonville
Owens, J. F., St. Joseph
Padgett, Earl C., Kansas City
Pare, E. Y., Leeton
Parrish, John C., Vandalia
Patterson, W. R., Warrensburg
Patton, W. G., St. Louis
Payne, B. T., Lexington
Peden, Joseph, St. Louis
Perry, J. M., Princeton

Petersen, Fenton J., Richmond Heights
Pflaum, Clarence C., Columbia
Pope, Nathan K., Marshall
Post, M. H., St. Louis
Pranger, S. H., St. Louis
Printz, O. J., Kansas City
Quinn, Abram T., St. Louis
Radmacher, J. J., Argyle
*Raikes, Ellis E., Jamestown
Rainey, Warren, St. Louis
Rambo, W. W., Jefferson City
*Ramsey, L. C., Kansas City
*Rector, F. L., Evanston, Ill.
Reder, Francis, St. Louis
Redman, Spence, Platte City
*Reuther, Bey, St. Louis
*Rewlins, Kelly, Columbia
Robertson, Leroy, St. Louis
Robinson, G. Wilse, Jr., Kansas City
Robinson, G. Wilse, Sr., Kansas City
Robinson, R. R., Columbia
Robnett, Dudley, Columbia
Roebber, H. M., Bonne Terre
Roselle, T. A., Hannibal
Rossen, Julius A., St. Louis
Rothwell, John H., Liberty
*Rouner, J. L., Columbia
Rowlett, Jack, Maryville
*Runde, R. H., Mount Vernon
Rusk, Earl McD., New Bloomfield
Russell, R. L., Jefferson City
*Ryan, Evert, Columbia
Ryan, Frank M., Maryville
Ryland, C. T., Lexington
Sampson, John H., St. Joseph
Scarpellino, Louis, Kansas City
Schisler, E. J., St. Louis
Schmidt, H. H., Marthasville
Schneider, Vincent A., St. Charles
Schofield, L. J., Warrensburg
Schooley, R. C., Odessa
Schulz, A. P. E., St. Charles
Schwab, S. I., St. Louis
Scott, John C., Lebanon
Seidltz, Geo. N., St. Louis
*Sessit, M. S., Columbia
Sexauer, Arthur E., Ste. Genevieve
Sexton, D. L., St. Louis
Shelton, E. C., Eldon
Shelton, Prior, Kansas City
Sherwin, C. F., St. Louis
Shuck, Lee I., Boonville
Shutt, C. H., St. Louis
*Sicelec, J. G., Columbia
Siddle, R. W., Columbia
*Simon, E. J., Columbia
Simon, F. C., St. Louis
*Singleton, D. E., Leavenworth, Kan.
Smith, C. Souter, Springfield
Smith, E. S., Kirksville
Smith, S. D., Columbia
*Smith, W. B., Troy
Smith, Wallis, Springfield
Smith, Wilbur, Springfield
Snider, Sam H., Kansas City
Spalding, W. B., Plattsburg
Spaulding, W., Poplar Bluff
Spector, H. I., St. Louis
Spencer, Floyd H., St. Joseph
Spencer, Selden, St. Louis
Spurgeon, M. E., Red Bird
Stamey, James T., St. Joseph
*Steele, E. G., Lebanon
*Stenson, O. W., Kansas City

*Steppelman, Roselinc, Jefferson City
Stewart, James, Jefferson City
Stoelze, J. D., Clayton
Stone, Chas. A., St. Louis
Stone, W. E., Boonville
Stookey, Paul F., Kansas City
Stratton, C. D., Rothville
*Strawm, M. P., Columbia
*Strobel, Minnie, Jefferson City
Stryker, G. V., St. Louis
Stumberg, B. Kurt, St. Charles
Stutsman, D. B., St. Louis
Talbot, Hudson, St. Louis
Taylor, Herbert I., Jefferson City
Taylor, Leon A., Jefferson City
Taylor, Van, Leadwood
*Taylor, W. E., Columbia
Tesson, James A., Kansas City
Thierry, Charles W., Jr., St. Louis
Thompson, Ralph L., St. Louis
Tiernon, L. B., St. Louis
Timberman, J. H., Chillicothe
Titsworth, Guy, Sedalia
Tobias, Norman, St. Louis
*Townley, W. D., Chamois
Trader, Chas. B., Sedalia
Traubitz, Arnold, Leadwood
Triplett, J. S., Harrisonville
Tripodi, Anthony M., St. Louis
Twyman, Tom, Kansas City
Upshaw, Paul O., Springfield
Van Ravenswaay, A., Boonville
*Verhoff, C. S., Westphalia
Vinyard, G. W., Jackson
Vinyard, Robert, Springfield

Von McKnelly, Wm., Chamois
Vosburgh, C. A., St. Louis
*Waddle, T. L., Columbia
Wails, J. O., Tuscumbia
Walker, G. D., Eldon
Wallace, C. H., St. Joseph
Walter, Archie L., Sedalia
*Washburn, J. L., Columbia
*Watson, J. E., Jr., Columbia
*Weger, Carl C., Glasgow
Welch, Albert J., Kansas City
Welch, Albert S., Kansas City
*Wells, Naomi, Jefferson City
Wentker, B. P., St. Charles
Wessling, Frederick J., Hermann
West, W. M., Monett
Weston, U. C., Galt
*White, Ned, Columbia
*Wilcox, W. B., Bowling Green
Wilcoxon, T. H., Bowling Green
Wilfley, Ota S., Excelsior Springs
Williams, R. S., Mexico
Williamson, William H., Mokane
Wills, William J., Springfield
*Wilson, Donald, Columbia
Wise, H. J., Sparta
Wilson, G. S., Fortuna
Wood, V. V., St. Louis
Woolley, Paul V., Kansas City
Woolsey, Ross, St. Louis
Wright, J. B., Trenton
*Wyly, W. J., Kansas City
Young, D. H., Fulton
Zeinert, O. B., St. Louis
Ziegler, Newell R., Columbia
Ziegler, William H., Boonville
Total, 490.

JASPER COUNTY MEDICAL SOCIETY

Meeting of April 26

The Jasper County Medical Society met in regular session at Joplin, April 26, with sixteen members and five visitors present, among them Dr. E. E. Glenn, of Mount Vernon, Mo.

Dr. J. L. Sims, Joplin, reported further on the case of pellagra presented at the last meeting.

Dr. E. E. Glenn, Mount Vernon, discussed "The Nontuberculous Cases Dismissed from the Mount Vernon Sanatorium from 1928 to 1931." The first part of the paper was a statistical study of cases according to age, sex, diagnosis, etc., and the latter part considered some of the actual pathological findings. Numerous lantern slides of charts and roentgen ray pictures were shown. Dr. Glenn emphasized that it requires greater study and longer observation to decide that a patient does not have tuberculosis than to determine its presence. He stated that the more advanced cases usually have a history of shorter duration than the less advanced cases.

Dr. Glenn's talk was well received and precipitated an interesting discussion of the economics of the State institutions as well as the medical problems involved.

Meeting of May 3

There were sixteen members and seventeen visitors present at this meeting.

The secretary read a letter from Dr. W. W. Brown, president of the Missouri State Dental Association, expressing appreciation for the Society's

offer to cooperate in making the coming meeting of the Dental Association a success.

The secretary read a letter from Dr. Joseph C. Bloodgood, Baltimore, relative to information to the laity on the prevention of cancer and calling attention to a reprint of a lecture given by Dr. Bloodgood which accompanied the letter.

Dr. Frank Windle, D.D.S., of Joplin, presented a short paper on "Gas Anesthesia," which was followed by three reels of motion pictures illustrating the technic of anesthesia in dental work. The pictures were shown through the courtesy of the Heibrink Company. Dr. Windle pointed out the advantages of this type of anesthesia and the pictures illustrated very adequately the technic of its administration.

Meeting of May 17

The meeting was called to order with ten members and two visitors present.

Dr. Jesse E. Douglass, Webb City, president, read a letter concerning a dinner conference to be held in Jefferson City the evening of May 23 relative to the public health problem of tuberculosis and urged any who could be present to do so.

Dr. L. C. Chenoweth, Joplin, brought up the matter of free treatment at the city clinics for patients who really are able to pay a private physician. This was discussed by most of those present. It was the consensus that some action was in order. Dr. S. H. Miller, Joplin, then moved that our delegate, Dr. L. C. Chenoweth, be instructed to call the matter to the attention of the House of Delegates at the State Meeting. This motion was seconded by Dr. J. L. Sims, Joplin, and carried.

The president brought up the comparable situation in regard to the free tuberculosis examination clinics. It was felt that this was primarily a problem in community health and hence no particular criticism could be directed toward the work as it has been handled.

Mr. R. N. Fullerton, Flint, of Eaton & Co., presented three reels of motion pictures entitled, "Pharmacy of an Alkaloidal Plant." This was very interesting and instructive and the members present felt well repaid for their attendance.

Meeting of June 7

The meeting of June 7 was held at Maxwell's Cafeteria, Joplin, with twenty-four members and guests present.

In the absence of the president and the vice president, Dr. Wm. S. Loveland, Joplin, presided.

During the dinner, entertainment was furnished by Dick and Betty Joyce, of Hollywood, California, who gave several song and dance numbers.

Following a short business session the delegates reported on the State Meeting at Jefferson City. Drs. L. C. Chenoweth, Joplin, and L. B. Clinton, Carthage, reported that there seemed to be a larger proportion of members from the smaller communities than is usual at the Annual Meetings. They reported routine business quickly disposed of and no unusual legislation enacted.

There being no case reports a very entertaining and instructive address was given by Dr. G. Leonard Harrington, Kansas City, on "Mental Disease and the Depression." He brought out that there has been no increase in the major psychoses and that the depression has brought considerable increase in the number of mental adjustments to minor difficulties. He illustrated his points with case histories which are always exceedingly interesting, especially

those having to do with child behavior. It is to be regretted that the attendance was so small.

In behalf of the Society Dr. Loveland expressed to Dr. Harrington our appreciation.

O. T. BLANKE, M.D., Secretary.

JOHNSON COUNTY MEDICAL SOCIETY

Meeting of May 11

The Johnson County Medical Society met in regular monthly session on May 11 at 8 p. m. in the Warrensburg Clinic in Warrensburg.

The first paper was presented by Dr. Roy F. Mills, Kansas City, on the subject "Drug Therapy in Heart Disease."

The next subject presented was "The Early Diagnosis of Cancer by the Family Physician Versus the Diagnosis Made by Clinics and Surgeon" by Dr. Charles H. Allen, Kansas City.

Both papers were splendid expositions of the subjects treated and called forth generous response in discussion from the doctors present.

In addition to the speakers of the evening most welcome visitors were Drs. John Q. Copc, C. T. Ryland and T. R. Butler, of Lexington; Dr. Odus Liston, Oak Grove; Drs. W. E. Martin and R. C. Schooley, of Odessa; Dr. E. L. Johnston, Concordia, and Drs. W. A. Braecklein and W. E. Koppenbrink, of Higginsville.

The doctors who attended from Johnson County were Dr. E. Y. Pare, Leeton; Dr. J. G. Beaty, Chilhowee; Dr. J. E. Porter, Knobnoster; Drs. W. E. Johnson, John T. Anderson, T. J. Draper, Wm. R. Patterson, R. F. McKinney, H. F. Parker, John A. Powers, L. J. Schofield and O. B. Hall, of Warrensburg.

In attendance, this meeting proved to be the banner session of the year to date.

It is highly gratifying to the officers of the Society to have the membership show a growing interest in the work of both Lafayette and Johnson County Medical Societies.

We are especially grateful for the response of the Lafayette County Society officers to the invitation extended them by the program committee of our Society to furnish the program upon this date. We feel that the selection of speakers was well merited in the personages of Dr. Roy Mills and Dr. Charles H. Allen, both former members of the Lafayette County Medical Society.

Meeting of June 8

The Johnson County Medical Society met in regular monthly session in Warrensburg Clinic in Warrensburg.

At the close of the business session the membership enjoyed a round-table discussion on the subject of "Malignancy of the Uterine Cervix and Its Modern Treatment."

Dr. H. F. Parker, Warrensburg, reported on a case of Hodgkin's disease in a young woman and aroused a lively discussion.

The out-of-town guests were Dr. E. L. Johnston, Concordia, and Dr. J. De Voine Guyot, Higginsville. R. Lee Cooper, a medical student in Washington University, St. Louis, and Victor Lookinof, a student of Rush Medical College, were also visitors.

Those present from Johnson County Medical Society were Drs. W. E. Johnson, John T. Anderson, Wm. R. Patterson, L. J. Schofield, F. J. Draper, J. E. Porter, H. F. Parker, R. F. McKinney and O. B. Hall, of Warrensburg. Dr. H. P. Haning,

Warrensburg, who formerly practiced medicine in Purdin, Linn County, Missouri, now taking up eye, ear, nose and throat work in Warrensburg, was also a welcome visitor at our meeting.

The alternate sessions of the Johnson and Lafayette County Medical Societies are meeting with much success. We get together every two weeks in the most centrally located town greatly to the benefit of medical practice in this vicinity. This method of holding meetings might be recommended to other counties where societies are not large.

O. B. HALL, M.D., Secretary.

NODAWAY COUNTY MEDICAL SOCIETY

The Nodaway County Medical Society met in regular session on May 13 at the St. Francis Hospital, Maryville. Dr. R. C. Person, Maryville, vice president, called the meeting to order at 7:45 p. m.

The following members were present: Drs. C. T. Bell, J. A. Bloomer, K. C. Cummins, L. E. Dean, C. V. Martin, R. C. Person, Jack Rowlett and Wm. Wallis, Jr., of Maryville, and Dr. Charles D. Humbert, Barnard. Drs. B. Landis Elliott and Ralph Emerson Duncan, of Kansas City; Drs. Earl Braniger, E. L. Enis and Jesse Miller, dentists, of Maryville, Dr. J. M. Broyles, Conception Junction, a dentist, and several Sisters of the hospital staff were guests of the Society for the evening.

Dr. C. T. Bell, Maryville, reported that the chairman of the Resolutions Committee which was appointed at the April meeting had not called a meeting of the committee. Dr. Wm. Wallis, Jr., Maryville, moved that the committee be discharged. The motion was seconded by Dr. Bell, and carried.

Plans for the Society's celebration of its sixtieth anniversary next November were discussed by Drs. R. C. Person, Wm. Wallis, Jr., and Dr. C. T. Bell, of Maryville.

At the request of the chairman, Dr. C. T. Bell, Maryville, discussed the condition of Dr. W. M. Hindman, Burlington Junction, president of the Society, who is now a patient in the hospital suffering from a sarcoma of the lung. He reported that Dr. Hindman has lost strength very rapidly and suffers much dyspnea and that a metastasis in the brain has given rise to much delirium and a marked degree of aphasia.

The secretary announced the annual meeting of the Missouri State Medical Association which is to convene at Jefferson City from May 23 to 26.

The meeting was then turned over to the Kansas City guests who had come as lecturers for the evening through the courtesy of the Postgraduate Committee of the Missouri State Medical Association. Dr. B. Landis Elliott read a carefully prepared paper on "Encephalitis Lethargica" which was illustrated with lantern slides. He reviewed the etiology, pathology, symptoms, diagnostic points, and treatment of this disease and gave particular attention to the late work of foreign investigators. The therapeutic agents recommended by Dr. Elliott are sodium iodide and methanamine, used intravenously.

Dr. Duncan presented a paper on "The Modern Use of Oxygen as a Therapeutic Agent," which was also illustrated with lantern slides. Dr. Duncan's ideas are essentially those of Barach and he gave many practical pointers which experience with the various types of oxygen apparatus had taught him, including in his discussion many much appreciated touches of humor.

CHAS. D. HUMBERT, M.D., Secretary.

ST. FRANCOIS-IRON-MADISON COUNTY MEDICAL SOCIETY

The St. Francois-Iron-Madison County Medical Society met in the County Court Room at Farmington on Friday, May 20. The meeting was called to order by Dr. D. Appleberry, River Mines.

A very interesting paper was read by Dr. M. L. Klinefelter, St. Louis, on "General Treatment of Fractures."

Another equally interesting paper was presented by Dr. E. J. Glenn, St. Louis, on "Infection of the Kidney."

Both of these papers were very instructive and a lengthy discussion followed each.

It was decided that the next regular meeting would be held in June at Farmington.

C. H. APPLEBERRY, M.D., Secretary.

ST. LOUIS COUNTY MEDICAL SOCIETY

The St. Louis County Medical Society met at the St. Louis County Hospital on May 11 with one of the largest attendances the Society has ever had, forty members being present. Dr. B. Kurt Stumberg, St. Charles, Councilor of the Eighth District, was a guest.

Two fracture cases which had been treated at the St. Louis County Hospital by plastic casts in which the patients became ambulatory after the application were presented. Roentgenograms taken during the seven weeks in which the casts were in place showed no slipping. Final results were very good.

Dr. C. P. Dyer, Webster Groves, presented a case of glioma in an infant four months old with enucleation of both eyes in an attempt to save the child's life.

Drs. J. W. Tidwell, Clayton, and J. A. Rogers, University City, gave reports of two interesting cases which had recently been treated in the hospital.

Drs. C. P. Dyer, Webster Groves, and Otto Koch, St. Louis, encouraged the members present to attend the State Meeting in Jefferson City from May 23 to 26.

FENTON J. PETERSEN, M.D., Secretary.

NATURE AND ORIGIN OF PIGMENTED STREAKS CAUSED BY SEPARATION OF CHOROID

From macroscopic and microscopic studies of two eyes showing pigmented streaks in the fundus, and of five eyes in which separation of the choroid still existed, F. H. VERHOEFF, Boston (Journal A. M. A.), draws the following conclusions: Pigmented streaks in the fundus resulting from separation of the choroid are entirely different in nature and origin from angioid streaks. Very fine pigmented streaks exist while the choroid is still separated. These are furrow-like creases in the surface of the choroid. They are not usually visible on ordinary ophthalmoscopic examination but they may be seen, in some cases at least, by transilluminating the separated choroid through the sclera. All these creases disappear as such when the separation subsides. The permanent pigmented streaks, seen after the separation has subsided, are ridgelike thickenings of the pigment epithelium. The pigment cells composing the permanent streaks originally accumulate within some of the furrow-like creases that exist while the choroid is separated. When the choroid becomes reappplied to the sclera and these creases are smoothed out, the accumulations of pigment cells are elevated, thus giving the appearance of streaks.

WOMAN'S AUXILIARY

Officers 1932-1933

President, Mrs. Davis S. Long, Harrisonville.
President-Elect, Mrs. Hudson Talbot, St. Louis.
1st Vice President, Mrs. W. H. Goodson, Liberty.
2nd Vice President, Mrs. S. P. Howard, Jefferson City.
3rd Vice President, Mrs. Ola Putman, Marceline.
4th Vice President, Mrs. W. H. Breuer, St. James.
Corresponding Secretary, Mrs. M. P. Overholser, Harrisonville.
Recording Secretary, Mrs. Howard B. Goodrich, Hannibal.
Treasurer, Mrs. James F. Owens, St. Joseph.
Auditor, Mrs. L. S. James, Blackburn.

ORGANIZED COUNTIES AND PRESIDENTS

COUNTY	PRESIDENT AND ADDRESS
Bates.....	Mrs. C. W. Luter, Butler
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Buchanan.....	Mrs. H. W. Carle, St. Joseph
Cass.....	Mrs. H. A. Brierly, Peculiar
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Jasper.....	Mrs. U. G. Hoshaw, Joplin
Johnson.....	Mrs. H. F. Parker, Warrensburg
Lafayette.....	Mrs. E. S. Johnston, Concordia
Linn.....	Mrs. O. Putnam, Marceline
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Randolph-Monroe.....	Mrs. Jesse Maddox, Moberly
Saline.....	Mrs. L. S. James, Blackburn
St. Louis City.....	Mrs. Francis Reder, St. Louis
Vernon-Cedar.....	Mrs. T. B. Todd, Nevada

TRUTH ABOUT MEDICINES

NEW AND NONOFFICIAL REMEDIES

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

ANTIMENINGOCOCCIC SERUM POLYVALENT.—An anti-meningococcus serum (New and Nonofficial Remedies, 1931, p. 355) marketed in packages of one double-ended vial containing 15 c.c., and in packages of two double-ended vials each containing 15 c.c. United States Standard Products Company, Woodworth, Wis.

PHENOBARBITAL SODIUM—SODIUM PHENYLETHYLBARBITURATE.—The monosodium salt of phenylethylbarbituric acid. The actions and uses of phenobarbital sodium are the same as those of phenobarbital. For hypodermic injection, phenobarbital sodium is used in the form of 20 per cent solution.

PHENOBARBITAL SODIUM—Gane and Ingram.—A brand of phenobarbital sodium—N. N. R. It is marketed in the form of tablets containing 1½ grains. Gane and Ingram, Inc., New York.

STERILE SOLUTION SKIODAN (40 per cent by volume).—Each cubic centimeter contains skiodan (New and Nonofficial Remedies, 1931, p. 779), 0.4 Gm. Winthrop Chemical Co., Inc., New York.

BRUCELLA MELITENSIS VACCINE.—A bacterial vaccine obtained from *B. melitensis* (*B. abortus*), proposed for use in the treatment of undulant fever caused by the organism commonly known as Bru-

cella abortus and not by the organisms coming from the goat.

BRUCELLA MELITENSIS VACCINE—Lederle.—Brucella Abortus Vaccine. A heat killed suspension of *Brucella melitensis* organisms (2,000 million per cubic centimeter). The product is marketed in packages of one 5 c.c. vial. Lederle Laboratories, Inc., Pearl River, N. Y. (Jour. A. M. A., February 6, 1932, p. 479.)

SODIUM IODOBISMUTHITE.—Sodium bismuth iodide. A compound formed by the interaction of bismuth chloride and sodium iodide in ethyl acetate solution, consisting essentially of hydrated sodium iodobismuthite (sodium bismuth iodide) with inorganic salts. It contains approximately 21 per cent bismuth, 62 per cent iodide and 11 per cent water of hydration. This bismuth preparation is claimed to have the quality of appearing in the spinal fluid and of penetrating the brain tissue.

IODOBISMITHOL.—A solution of sodium iodobismuthite (sodium bismuth iodide) in ethylene glycol containing 0.1 per cent acetic acid. Each cubic centimeter contains sodium iodobismuthite equivalent to 0.012 to 0.0138 Gm. bismuth and 0.109 to 0.129 Gm. sodium iodide. Iodobismithol seems to be well absorbed and to be excreted fairly rapidly. The claim is made for it that it will penetrate the brain in a great majority of persons treated. E. R. Squibb & Sons, New York. (Jour. A. M. A., February 13, 1932, p. 554.)

CLINADOL CO.'S COD LIVER OIL CONCENTRATE.—An extract of the nonsaponifiable fraction of cod liver oil in maize oil, to which has been added gluside (3 in 10,000) and oil of cassia 2 per cent. It has not less than 5,500 units of vitamin A per gram as determined by the method of the U. S. Pharmacopeia; when assayed by the method of the Wisconsin Alumni Research Foundation, it has a potency of 143 "Steenbock" units or 1,428 A. D. M. A. units. It possesses properties similar to those of cod liver oil so far as these depend on the vitamin content of the latter. Clinadol Co., Inc., New York. (Jour. A. M. A., January 2, 1932, p. 47.)

FIBROGEN LOCAL—Merrell.—Suspension of Fibrinogen and Cephalin for Local Use. A sterile suspension of tissue fibrinogen and cephalin. It contains 1.5 per cent of tissue fibrinogen and 0.5 per cent of cephalin in a solution of sodium chloride 0.9 per cent. For action and uses, see New and Nonofficial Remedies, 1931, p. 186, Fibrin Ferments and Thromboplastic Substances. The product is supplied in 7 c.c. vials. Wm. S. Merrell Co., Cincinnati, Ohio.

TYPHOID VACCINE.—This product (New and Nonofficial Remedies, 1931, p. 381) is also marketed in packages of one 5 c.c. vial and in packages of one 20 c.c. vial. United States Standard Products Co., Woodworth, Wis.

TYPHOID PARATYPHOID VACCINE COMBINED.—This product (New and Nonofficial Remedies, 1931, p. 381) is also marketed in packages of one 5 c.c. vial and in packages of one 20 c.c. vial. United States Standard Products Co., Woodworth, Wis.

TABLETS DIAL-CIBA, 0.03 Gm. (½ grain).—Each tablet contains Dial-Ciba (New and Nonofficial Remedies, 1931, p. 8), 0.03 Gm. (½ grain). Ciba Co., Inc., New York. (Jour. A. M. A., January 9, 1932, p. 142.)

THROMBOPLASTIN LOCAL—Squibb.—An extract of cattle brain in physiological solution of sodium

chloride, prepared according to the method of Hess. For a discussion of the actions, uses and dosage, see *New and Nonofficial Remedies*, 1931, p. 186 and p. 188. It is supplied in 20 c.c. vials. E. R. Squibb & Sons, New York. (*Jour. A. M. A.*, January 16, 1932, p. 230.)

SURGICAL MAGGOTS—Lederle.—Fly larvae of the species *Phormia regina* and *Lucilia sericata*. Marketed in bottles containing approximately 1,000 in a medium composed of desiccated hog's liver and 1 per cent nutrient agar. Surgical maggots—Lederle are proposed for use in treatment of chronic osteomyelitis and other suppurative infections; it is believed that the maggots clear away devitalized tissue after operation. Lederle Laboratories, Inc., Pearl River, N. Y.

DIPHTHERIA TOXIN FOR THE SCHICK TEST.—This product (*New and Nonofficial Remedies*, 1931, p. 384) is also marketed in packages containing sufficient material for ten tests. Cutter Laboratory, Berkeley, Calif.

TABLETS LIPOIODINE—Ciba. 0.3 Gm. Sugar Coated. —Each tablet contains Lipiodine—Ciba (*New and Nonofficial Remedies*, 1931, p. 212), 0.3 Gm. Ciba Co., Inc., New York.

GOLD SODIUM THIOSULPHATE—Searle.—A brand of sodium gold thiosulphate—N. N. R. (*New and Nonofficial Remedies*, 1931, p. 192.) The product is marketed in the form of ampuls containing, respectively, 0.01 Gm., 0.025 Gm. and 0.05 Gm. gold sodium thiosulphate—Searle, in a solution containing sodium thiosulphate and benzyl alcohol. G. D. Searle & Co., Chicago. (*Jour. A. M. A.*, January 30, 1932, p. 401.)

TYPHOID PARATYPHOID VACCINE (Prophylactic) (*New and Nonofficial Remedies*, 1931, p. 380).—This product is also marketed in packages of ten 2½ c.c. vials containing in each c.c. 1,000 million killed typhoid bacilli, 750 million killed paratyphoid A and 750 million killed paratyphoid B bacilli. Parke, Davis & Co., Detroit.

TYPHOID VACCINE (Prophylactic) (*New and Nonofficial Remedies*, 1931, p. 380).—This product is also marketed in ten 2½ c.c. vials containing in each c.c. 1,000 million killed typhoid bacilli. Parke, Davis & Co., Detroit.

THROMBOPLASTIN LOCAL—Lederle.—An extract of cattle brain in physiological solution of sodium chloride, prepared according to the method of Hess. For a discussion of actions and uses, see *Fibrin Ferments and Thromboplastic Substances*, *New and Nonofficial Remedies*, 1931, p. 188. The product is marketed in 5 c.c. vials and 20 c.c. vials. Lederle Laboratories, Inc., Pearl River, N. Y.

DIPHTHERIA TOXOID—Lederle (*New and Nonofficial Remedies*, 1931, p. 370).—This product is also marketed in packages of one immunization treatment consisting of two 1 c.c. syringes; in packages of one immunization treatment consisting of two 1 c.c. vials; in packages of one syringe containing sufficient diluted diphtheria toxoid for one reaction test; and in packages of one vial containing sufficient diluted diphtheria toxoid for five reaction tests. Lederle Laboratories, Inc., Pearl River, N. Y.

GLASEPTIC AMPOULES SOLUTION GLUCOSE, 50 per cent, 100 c.c.—Each ampoule contains dextrose—U. S. P. 50 Gm., in distilled water to make 100 c.c.; buffered with sodium citrate. Parke, Davis & Co., Detroit.

POLLEN ANTIGENS—Lederle (*New and Nonofficial Remedies*, 1931, p. 28).—The following products have been accepted: Prostrate Pigweed Pollen Antigen—Lederle, Summer Cypress Pollen Antigen—Lederle; Pollen Antigens—Lederle are also marketed in series D packages: five vials each containing 3,000 pollen units and five vials of diluent. Lederle Laboratories, Inc., Pearl River, N. Y.

DIPHTHERIA TOXIN-ANTITOXIN MIXTURE 0.1 L+ (*New and Nonofficial Remedies*, 1931, p. 362).—This product is also marketed in packages of three syringes, representing one complete immunization. Lederle Laboratories, Inc., Pearl River, N. Y.

NEOCINCHOPHEN—Abbott Tablets, 7½ grains.—Each tablet contains neocinchophen—Abbott (*New and Nonofficial Remedies*, 1931, p. 125), 7½ grains. Abbott Laboratories, North Chicago.

TUBERCULIN INTRACUTANEOUS (Human Type) (*New and Nonofficial Remedies*, 1931, p. 366).—This product is also marketed in packages of one 3 c.c. vial containing tuberculin old (human type) sufficient for 50 tests. H. K. Mulford Co., Philadelphia.

TUBERCULIN INTRACUTANEOUS (Bovine Type) (*New and Nonofficial Remedies*, 1931, p. 366).—This product is also marketed in packages of one 3 c.c. vial containing tuberculin old (bovine type) sufficient for 50 tests. H. K. Mulford Co., Philadelphia.

SCARLET FEVER STREPTOCOCCUS TOXIN for Preventive Immunization—P. D. & Co. (*New and Nonofficial Remedies*, 1931, p. 369).—This product is also marketed in packages of six 1 c.c. vials. Parke, Davis & Co., Detroit. (*Jour. A. M. A.*, November 7, 1931, p. 1386.)

SYNEPHRIN TARTRATE.—The tartrate of an alkaloid obtained synthetically. Synephrin tartrate is used as a vasoconstrictor. It is less toxic than either epinephrine or ephedrine, and its vasoconstrictor action, while not so pronounced as that of epinephrine, endures for a longer time. In combination with procaine hydrochloride, it is useful for local anesthesia in dental operations and in minor surgery in cases in which a bloodless area is not required. Applied to mucous membranes, it causes contraction of the capillaries, thus reducing swelling and congestion of such membranes. Because of this action it is also used for shrinking swollen turbinates. The drug is supplied in the form of synephrin tartrate solution, 3 per cent and 5 per cent, as synephrin tartrate emulsion plain and synephrin tartrate emulsion compound. Frederick Stearns & Co., Detroit. (*Jour. A. M. A.*, November 21, 1931, p. 1537.)

IVYOL—Poison Oak Extract—Mulford.—A Solution in olive oil of an irritant or vesicant oil extracted from the fresh leaves of poison oak. It is used to relieve the symptoms of the dermatitis produced through contact with poison oak. The product is supplied in the form of "Hypo Units" each containing 0.7 c.c. of ivyol-poison oak extract. H. K. Mulford Co., Philadelphia.

DIPHTHERIA TOXIN ANTITOXIN MIXTURE 0.1 L+ (Goat).—A mixture containing 0.1 L+ dose of diphtheria toxin per c.c. neutralized with the required amount of diphtheria antitoxin obtained from goats. It is marketed in packages of three vials, representing one immunization; in packages of three syringes, representing one immunization; in packages of thirty vials, representing ten immunizations; and in packages of one 30 c.c. vial,

representing ten immunizations. Lederle Laboratories, Inc., Pearl River, N. Y.

NEOCINCHOPHEN—Squibb.—A brand of neocinchophen—N. N. R. (New and Nonofficial Remedies, 1931, p. 123.) It is also supplied in 5 grain tablets. E. R. Squibb & Sons, New York. (Jour. A. M. A., November 28, 1931, p. 1626.)

BOOK REVIEWS

THE SURGICAL CLINICS OF NORTH AMERICA. (Issued serially one number every other month.) Volume 12, No. 1. (New York Number—February, 1932.) 240 pages with 92 illustrations. Philadelphia and London: W. B. Saunders Company. 1932. Per clinic year (February, 1932, to December, 1932), paper, \$12.00; cloth, \$16.00.

This is the New York number of the Surgical Clinics of North America. There are thirty-one contributors who discuss many surgical conditions. Dr. Robert T. Frank at the Mt. Sinai Hospital demonstrated his operation for the formation of artificial vagina. He states that there are but two reports in the literature describing this operation previous to the four cases that he reported at the Mt. Sinai Clinic. His operation in three of the cases was successful and the patients are all satisfied with the result and are happily married. The fourth patient failed to carry out instructions so a stricture resulted. This will be corrected. The book is liberally illustrated.

PERSONAL HYGIENE APPLIED. By Jesse Feiring Williams, A.B., M.D., Professor of Physical Education, Teachers College, Columbia University. Fourth edition, reset. Philadelphia and London: W. B. Saunders Company. 1931. Price \$2.25.

This is the fourth revised and reprinted edition of a book originally published in 1922. It is primarily intended for college students and contains a wealth of well arranged material which for the most part is "accurate according to the latest information available." The views expressed are scientific and moderate, yet one feels that the book would be more pleasing to the average physician if its general tone was less definitely pedagogical. M. A. McL.

DEMONSTRATIONS OF PHYSICAL SIGNS IN CLINICAL SURGERY. By Hamilton Bailey, F.R.C.S. (Eng.), Surgeon, Royal Northern Hospital, London. Third edition, revised and enlarged. With 318 illustrations, some of which are in color. New York: William Wood and Company. 1931. Price \$6.50.

First published in 1927 this book has been fully revised twice and now appears in its third edition.

The book contains 277 pages with 318 illustrations that fully and admirably illustrate and are an outstanding feature of the work. Bailey sticks to the subject in a terse style and does not allow himself to ramify into fields outside the scope of physical signs. For instance, there is not a single roentgen ray reproduction nor are there plates illustrating proctoscopes, duodenal tubes or certain makes and models of stethoscopes. He gets down to basic principles and stays there—something that is good for all of us in this day and age when we are all wont to use the laboratory out of sheer laziness or because we were brought up in the ultra-modern school.

One interested in ruptured supraspinatus tendon would be disappointed in not finding mention of this disability which, of all tendon and muscle ruptures, is most wholly dependent upon physical signs in diagnosis.

A disciple of Osler or of McCrae might wish that Bailey had urged the examiner for an enlarged liver to begin at the right anterior superior spine instead of at the navel, as illustrated. A follower of Deaver might wish that the author or some one writing on physical signs would go into some detail as to the value of auscultation in determining the reaction of the peritoneum to infection. Bailey gives eight lines to the subject under intestinal obstruction and most of this is a quotation from Burgess. He credits Claybrook with the observation that in intestinal rupture, heart and respiratory sounds can be heard with a stethoscope all over the abdomen due to the transmission of these sounds through the exudate. One can only hope that in some future edition Bailey will devote a chapter to abdominal auscultation instead of a few lines.

Those engaged in industrial or traumatic surgery will find much of interest and importance in this book, but would feel really indebted to the author for a few more pages dealing with signs indicative of a neurotic or hysterical patient. Chapter XXV dealing with this subject comprises one page.

A careful perusal finds the merits of the book far outweighing its defects. It is bound to be a good investment for any student, surgeon or general practitioner.

The publisher has produced a splendid book with a fine quality of calendered paper and excellent readable type. E. P. H.

CONQUERING ARTHRITIS. By H. M. Margolis, M.D. New York: The Macmillan Company. 1931.

This is a duodecimo volume of 192 pages with one drawing of the anatomy of the joints. The paper is thick, good quality, not highly calendered. The type is good and the construction of the book worthy of the Macmillan Company.

The author has attempted the ambitious venture of popularizing a scientific matter. This is a severe test of one's command of English as well as of one's command of the subject. When, now, the subject is one about which there is little agreement in the scientific mind, the attempt to popularize information on that subject is extremely dangerous. The easy way out of the dilemma would be to assume a radical position and support that position with all the power of invective and logic at one's command. But Dr. Margolis has assumed a conservative attitude and tries to be fair and moderate in his statements. The result probably will be that patients suffering from arthritis will not be pleased with the failure to give them a panacea for their troubles; nor will they be pleased with his failure to give them an explanation of the cause of their trouble. For it is a hard road which Dr. Margolis points out for the sufferer from arthritis; namely, to have all the foci of infection—and that includes the possible foci of infection—removed, then to lead a life of leisure with sufficient change of climate to be comfortable.

The reviewer hopes that the next year or two will bring about the demonstration of data in the researches now going on in the field of arthritis, that will make it possible for Dr. Margolis in his next edition to point out to the public not only the cause of arthritis, but also some means of cure, something which has not been known for centuries. G. H. H.

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E. J. GOODWIN, M.D., Editor
1023 Missouri Building, St. Louis, Mo.
Telephone, Jefferson 5261.

PUBLICATION } J. C. B. DAVIS, M.D., Chairman
COMMITTEE } G. WILSE ROBINSON, M.D.
M. A. BLISS, M.D.

A CLINICAL CONSIDERATION OF HYSTERECTOMY

WITH A BRIEF NOTE UPON SOME POINTS OF
TECHNIC

THE HODGEN LECTURE*

C. JEFF MILLER, M.D.

NEW ORLEANS

The very intensity of our desire to do fitting reverence to the great men who have dwelt among us often makes it no easy thing to know how best to honor their memory. Some of them are remembered by monuments of stone, some by tablets of bronze, but you physicians of St. Louis have, it seems to me, chosen a better way to perpetuate the name of John Thompson Hodgen, and a way that he himself would have wished, in this yearly remembrance that emphasizes in an entirely practical and helpful way the specialty of surgery to which he devoted his life. Some of you who are here tonight perhaps knew him personally. All of you, I doubt not, know him in the fragrant memory he left in this city which was his home and in the medical school which was so close to his heart. Numbered among the pioneers of modern surgery, faithful servant of mankind, earnest teacher of young men, honored alike by his fellow-citizens and his medical brethren, he needs no words of mine to enlarge his fame or enhance his greatness, for, "being dead, he yet speaketh."

When I elected to address the members of the St. Louis Surgical Society and its guests upon the rather commonplace subject of hysterectomy I realized that an apology might be due you for bringing to you a paper which had in it neither the actual nor the potential merits of the lectures delivered by the brilliant array of speakers who have preceded me as Hodgen Orators, and the first of whom my own native city proudly claims as one of her greatest sons. Yet on second thought I am not so sure that an

apology is needed. I have read carefully the life of the man in whose honor this lecture was instituted and I have been deeply impressed by one special phase of it: Dr. Hodgen was above all else a teacher, and a teacher who emphasized the practical, clinical aspects of the surgical art, which it has become rather the fashion to decry. A physician whose chief interest was in medical education, a physician whose emphasis was ever on clinical medicine would not, I am sure, disdain my theme but would rather, I think, look with favor upon an endeavor to remind an audience composed both of practicing physicians and surgeons and of young men who have not yet taken up their medical burdens, of the true place of the most abused operation in gynecology.

I speak with due consideration when I say that hysterectomy is today the most abused operation in gynecology. It is perhaps the safest of the major abdominal procedures. It is perfectly standardized from the technical aspect. It is extraordinarily successful from the point of view of end-results. All of these things I grant. But it is a successful operation only when it is performed upon the proper indications, a safe operation only when it is performed by properly qualified men, and I would remind you that we are in grave danger of overlooking these fundamental provisos. Hysterectomy is today regarded as a panacea for any type of pelvic pathology. It is being employed upon the most trivial of indications or upon no indications at all. It is being resorted to when simpler, safer procedures would achieve equally good results without its inevitable risks. It is being performed with the light-hearted indifference to consequences that Oliver Wendell Holmes once described in another connection as "the next step above an inclination to crime."

As late as 1886 H. P. C. Wilson, addressing the American Gynecological Society, said, "I shrink and have a feeling of terror come over me when I find myself obliged to do a hysterectomy." As late as 1891 Goodell was teaching at Pennsylvania that only after every other

* Read before a joint meeting of the St. Louis Surgical Society, the Medical Fund Society, and the St. Louis Medical Society, at St. Louis, January 12, 1932.

measure—including, it might be added, bilateral oophorectomy—had failed to relieve the patient should the “heroic operator” resort to hysterectomy for uterine fibroids. As late as 1896 Handfield-Jones, fired by the report of the gynecologist who had done twenty hysterectomies in one year, was writing that American surgery was far too bold and that a firm front must be opposed to the “advocates of such merciless mutilation.”

We are all of us “heroic operators” today. We do no shrinking and we have no feeling of terror when it comes to hysterectomy, or to anything else, for that matter. We smile complacently at our old-fashioned surgical ancestors, we are more or less supercilious in our scorn of their timorous conservatism, but are we entirely correct in our attitude? Would it not be well for us to remind ourselves at intervals that surgery and the extirpation of structure are not necessarily synonymous? Would it not be well for us to remember that the inevitable minimum mortality of any operation mounts to maximum heights in the hands of careless and untrained men? Would it not be well for us to be a little less quick to unsex women, a little more ready to consider in the place of major surgical procedures minor surgical procedures or even nonsurgical procedures? Would it not be well for us to base our therapy upon the fundamental conception that a woman’s whole scheme of existence takes its point of departure from her pelvic organs?

Howard Kelly’s observation is even more timely today than it was when it was uttered twenty years ago, that surgery, developing in the hands of men, has dealt too lightly with mutilating operations on women, and that if the case might be reversed for several decades, with women operating and men suffering the mutilation, there would undoubtedly be a large prepossession in favor of wise conservatism. Since the destruction of gynecologic function is not incompatible with life, function is ruthlessly ablated, not because its ablation is necessary to cure the patient but because the surgical way is for most of us the easiest way. We operate from the standpoint of anatomy, not from the standpoint of physiology; we are engaged, as Blair Bell once put it, in “an eradicative competition,” and it would pay us to halt in our course and to reflect that many times our patients might perhaps be better off if we refrained—I quote Willard Bartlett—from “committing surgery” upon them.

There is another aspect of hysterectomy which must also be considered. It is generally regarded, as I have already pointed out, as among the safest of the major abdominal procedures, but that is not the whole truth. More than one writer has attempted to bring home

the point that the 1 and 2 per cent mortality so often and so triumphantly quoted for the operation is the mortality of the expert surgeon and of the highly organized clinic. In the average hospital, in which the majority of all patients are treated, and in the hands of the average surgeon, who does the bulk of all surgery, the mortality is two or three times as high. It is never under 5 or 6 per cent, and it may run to 8 or 10 per cent. Gynecologic surgery is relatively safer than other types of surgery because it is done upon structures which are not essential to life, and hysterectomy is a perfectly standardized operation; the result is that even the untrained surgeon can perform it safely providing that the disease which he encounters is also standardized. But that is not always the case. Let unexpected pathology appear, let technical difficulties develop, and facile hands lose their facility because behind them there is no depth of purpose, no reality of understanding.

Moreover, even the experts have their losses. The clinic of the University of Pennsylvania is one of the best organized in the country, Keene and his associates are wise and experienced surgeons, and it is not too much to assume that their performance could scarcely be bettered anywhere in the world. They report over an approximately six-year period 681 hysterectomies for uterine fibroids with a mortality of 1.46 per cent, a brilliant record indeed. But let us analyze the figures. In 518 of those operations uncomplicated tumors were handled, and the mortality was purely negligible—.39 per cent. In 163 cases the uterine disease was complicated by other pelvic disease and the mortality was 4.9 per cent, more than twelve times as high. The one illustration suffices. Your imagination and mine can supply the mortality which the average surgeon would have achieved in circumstances in which one of the most skilful surgical teams in the world could not avoid a death rate of nearly 5 per cent.

An operation which destroys function permanently, an operation which carries with it a minimum death rate, no matter how skilfully it is performed, and a maximum death rate when it is performed by untrained men or when it is performed in the face of complicating conditions, is surely not an operation to be undertaken lightly. It is rather an operation which should be done only upon definite indications and only when a less destructive and a less dangerous mode of therapy will not answer the patient’s needs.

Hysterectomy in the absence of definite uterine disease is not warranted today in 1 per cent of the cases of uterine bleeding, yet it is still rather frequently performed upon that indication. Bleeding that comes from the uterus

does not necessarily, the gynecologist knows, mean bleeding that originates in the uterus. Such hemorrhage is frequently only the response of the uterus to the evil stimulation of dysfunction elsewhere. Such hemorrhage is frequently extra-uterine or even extra-pelvic in origin. Such hemorrhage, especially at the extremes of life, is frequently functional or physiologic and not pathologic. Hysterectomy to relieve it, therefore, is an illogical procedure until other measures have failed to work a cure. Its field has been extremely limited since the introduction of radium, and it is likely to be still further limited if we can accept, as I think we can, the hopes held out by the recent brilliant work that has been done along the lines of endocrine therapy.

Hysterectomy for hydatidiform mole has never been a justifiable procedure; it is true that 50 per cent of all cases of chorio-epithelioma develop after it, but the reverse of the statement, often advanced as a fact, is positively not true. Fifty per cent of moles do not develop into chorio-epithelioma. Even when microscopic study of the uterine scrapings, admittedly both unsatisfactory and inconclusive in this special disease, was the only diagnostic recourse, hysterectomy on suspicion was scarcely justified, and now that the Aschheim-Zondek test provides a practically infallible mode of diagnosis there is no excuse whatsoever for the performance of radical surgery because in a very small per cent of cases an exceedingly rare malignant disease may be the sequel of a rather rare benign disease.

There are many valid objections to hysterectomy as a method of sterilization. Resection of the tubes is a less serious procedure. Graduated irradiation can produce amenorrhea without either the morbidity or the mortality inherent in abdominal surgery, and with the chance of a later restoration of function if the constitutional disease should be arrested and pregnancy be considered safe. Other things being equal, the less serious operation, the less final operation, is certainly the patient's right. The Porro hysterectomy for sterilization, as suggested by Williams, naturally falls into a different category; the patient is presumably in good condition, she is likely to have one or more living children so that future function is not a consideration, her abdomen is already open, and the convalescence, according to Williams, is actually smoother than when hysterectomy is not done.

Routine hysterectomy in the course of salpingectomy for specific disease is at least debatable. If bilateral excision of the adnexa is necessary, so that the uterus would be left as a functionless organ, then its removal is justified if little or nothing is added to the risk of

operation. If the uterus is intrinsically diseased, if it is so denuded during operation that adequate peritonealization is impossible, if the round ligaments are so involved in the inflammatory process that a proper suspension cannot be done, then hysterectomy is indicated. If, however, the uterus is not itself diseased or damaged and if conservation of one or both ovaries is possible, routine hysterectomy is entirely illogical. For one thing, it adds a definite if slight risk to the operation, and a surgical risk is never justified that does not serve some good end. For another, most women are perverse enough to desire the continuation of menstruation even if the more important function of conception cannot occur. Sampson's recent studies in postsalpingectomy endometriosis would seem to put a different complexion on the matter, but I have not yet seen such sequelae in sufficient numbers to make me advocate routine hysterectomy after salpingectomy.

With all due regard for the brilliant results of Baldwin and a few others, I question the wisdom of hysterectomy for puerperal infection, a disease that in its milder manifestations does not need surgery and that in its graver manifestations is beyond the reach of any surgery whatsoever. Its routine performance on the first appearance of symptoms might save some lives but would undoubtedly result in an overwhelming number of unnecessary and mutilating operations, while its deferred performance usually means either a widespread infection which local surgery could not possibly control or a patient too gravely ill to withstand a major abdominal procedure. Moreover, the mortality of hysterectomy in unselected cases—again I except Baldwin's figures—runs from 40 to 90 per cent, as contrasted with an average mortality of 10 per cent for untreated cases of puerperal infection. Some patients do recover after hysterectomy, but that is no argument for its performance: I am not alone in my opinion that they recover in spite of what has been done to them and not because of it.

If an inverted uterus is intrinsically diseased hysterectomy is a justifiable procedure, for intrinsic disease, whether the uterus is inside or outside of the peritoneal cavity, is a valid indication for hysterectomy, though inversion in itself is not. Hysterectomy by the vaginal route is also a very valuable measure in uterine prolapse when the displacement is so extensive that a suspension operation or the interposition operation would not remedy it, or when the uterine disease forbids the preservation of the organ.

Hysterectomy is naturally indicated in such diseases of the uterus as the hyperplasia that follows subinvolution or the chronic fibrosis

that may result from the same condition, as well as in chronic metritis and similar affections which seriously disturb the health even though they do not actually threaten life. The ideal, of course, is such prophylactic therapy as would prevent these entirely controllable diseases from reaching the stage at which radical measures are demanded; I need scarcely point out that my remark has reference only to the cases in which lack of the proper treatment or of any treatment has made conservatism impossible. I should also hesitate to mention, except that I have actually heard of its being done, that hysterectomy is not the accepted treatment for endometrial polypi. If vaginal removal is not practical, laparotomy and hysterotomy are entirely possible, permitting the removal of the offending growths under direct vision and the conservation of the uterus for future function.

Hysterectomy is the procedure of choice in the pyometra rather often seen in women in the postmenopausal years when surgical dilatation has failed to effect a cure. I am entirely in accord with Graves, who has preached for many years that inadequate drainage supplies the factor of irritation which is responsible for the development of fundal malignancy, and I am coming more and more to the belief that radium after the menopause is a very dangerous measure. The question of conservatism does not enter into the discussion, for one is concerned with an organ that is already functionless and while surgery adds to the immediate risk, I grant, it multiplies future safety. I make that statement without qualifications and with full recollection of my last two deaths after hysterectomy, each of the operations being done on the indication of pyometra. Both the patients, characteristically, were doctors' wives, and both of them had been previously treated by radium, in one instance by a far larger dose than it is my custom to use for malignant disease. The condition of both uteri confirmed me in my belief that prompt hysterectomy should be the treatment for pyometra which does not respond immediately to surgical dilatation; I firmly believe that both of those women would be alive today had that course of action been followed with them.

The chief indication for hysterectomy is fibroids of the uterus, and yet even on this absolute indication it should not be resorted to until there has been a careful consideration of other measures. What Gaillard Thomas said nearly fifty years ago is still quite true, "There is no more dangerous gynecologist than he who goes forth determined to extirpate the uterus for solid tumors." The mere existence of a fibroid does not mean that any treatment at all

is necessary, let alone hysterectomy; a symptomless fibroid discovered accidentally needs routine observation but it does not need surgery. A second group of tumors can and should be treated by myomectomy, an operation that may be applicable to only a small number of cases in public practice, particularly among colored women, but that is applicable to a far larger number in private practice than it is usually considered for. In competent hands the morbidity and mortality are no higher than in hysterectomy, secondary surgery is necessary in only a negligible number of cases, 90 per cent or more of the patients menstruate normally thereafter, and from 20 to 30 per cent of subsequent pregnancies occur. The young woman who has a single tumor or even several tumors but whose pelvis is otherwise normal and who desires the preservation of function should be treated by myomectomy; under such circumstances hysterectomy is a surgical crime.

Just as myomectomy is the procedure of choice in young women, so is irradiation the procedure of choice in women in the menopausal or the premenopausal years, in whom function is no longer a consideration and whose tumors fall within certain definite limits, for irradiation is a procedure which in the properly selected case is almost unfailing in its results and is practically free from morbidity and mortality. When it can be employed hysterectomy is again a surgical crime.

The indications for hysterectomy in uterine fibroids may well be described as the contraindications for myomectomy and irradiation. Removal of the uterus is the only possible procedure in multiple fibroids which in the aggregate are larger than a three or three and a half months' pregnancy, in adenomyomata, in tumors associated with adnexal disease, in tumors which are wedged in the pelvis, in tumors which are causing vesical disturbances or other pressure symptoms, in tumors which are undergoing degeneration, as evidenced by low-grade elevations of temperature or by anemia out of proportion to the actual blood loss. Surgery is also the method of choice in indigent and working women, in whom promptness and permanence of cure are usually more important than the preservation of function. From 90 to 98 per cent of the colored women seen in the far South are in need of this procedure, for the social indication just set down as well as because of the size and multiplicity of their growths and the frequency of associated adnexal disease.

There is never an excuse, though I gather from the patients who consult me that the argument is not unusual, for urging a woman

to submit to hysterectomy on the plea that her fibroid is likely to turn into cancer. Fibroids can never become cancerous, for the reason that cancer cannot develop from the elements of which they are constituted, though it can, of course, be associated with them. Sarcomatous degeneration develops, or is coincident, as you choose to view it, in a small percentage of fibroids, more likely 1 or 2 per cent than the 6 or 7 per cent occasionally stated, but that possibility need not deter one from resorting to either irradiation or myomectomy on the proper indications: it is usually a simple matter to eliminate malignancy positively or to establish its existence.

Hysterectomy is the wisest procedure in young women with fibroids when myomectomy is contraindicated. From the standpoint of function, irradiation is quite as irrevocable as hysterectomy and it may give rise to very much more serious consequences than will follow the surgical ablation of the uterus and the preservation of functioning ovaries. The same considerations, it might be added, operate when intractable dysmenorrhea or menorrhagia must be handled in young women.

There is rarely an excuse for doing hysterectomy in the course of a pregnancy complicated by fibroids, at least before the period of viability. Usually, only observation is necessary and delivery can be accomplished at term by cesarean section if spontaneous labor is not possible, hysterectomy or myomectomy being done then according to the indications. Myomectomy is usually practical if symptoms develop during gestation; even if the patient should abort or miscarry she is far better off than if the chance of future conception had been eliminated by hysterectomy.

Chemical hysterectomy for fibroids or any other disease I mention only to condemn. I grant the good results occasionally reported from clinics whose work is beyond cavil, but at that I cannot conceive of any disease for which I should be willing to attempt the procedure or any set of circumstances under which I should be willing to advise it. The fatalities reported from this mode of treatment make the rationality of my stand so perfectly clear that I need not labor the point.

That the vaginal route was formerly very widely employed, and equally widely abused, is no reason for not employing it now on the proper indications. It has a very much wider field of usefulness than the modern surgeon is usually willing to ascribe to it. Vaginal hysterectomy is obviously the logical method in the rare cases of inversion of the uterus in which its removal is indicated. It is a very valuable method in uterine prolapse when the

displacement is too extensive to permit the performance of the interposition operation, when atrophy makes the uterus useless as a support for the bladder, or when intrinsic disease demands its extirpation. It has a peculiarly wide field in fibroids of moderate size associated with uterine prolapse of any degree, a usefulness that is considerably widened if morcellation be employed to reduce the size of the tumor mass and so permit the delivery of a fundus larger than could otherwise be removed vaginally. Vaginal hysterectomy is the procedure of choice in obese elderly women in whom postoperative complications and abdominal hernias are dangerous possibilities, as well as in patients who are poor surgical risks.

The operation has many obvious advantages. It can easily be performed under local analgesia if the patient's condition contraindicates an inhalation narcosis. Shock is naturally less than in the abdominal operation because the viscera are not exposed and the intestines are not manipulated. The operating time is less because suture of the abdominal wall is eliminated. The union of the broad ligaments in the midline provides a shelf upon which the bladder may rest, thus eliminating the cystocele and preventing recurrent prolapse of the vaginal walls. The blood supply is controlled perfectly and under full visibility, just as in the abdominal operation, and the ureters are equally well protected. The cases in which it is done, however, must be properly selected. Vaginal hysterectomy should not be performed through a contracted vagina, or upon a very large uterus, nor should it be performed when adnexal disease is associated or when the broad ligaments lack elasticity. In other words, if it is not to defeat its own purpose by introducing the factor of trauma, there must be sufficient space for the operative manipulations and it must be possible to bring the uterus down freely. If these contraindications are observed, the vaginal operation is beyond question safer than the abdominal procedure and the convalescence is decidedly smoother.

There are many notable names in the list of gynecologic surgeons who have made hysterectomy what it is today, and at least three of them must be mentioned: Stimson, who suggested the present method of controlling the uterine blood supply by preliminary ligation; Baer, who suggested the present treatment of the cervical stump by simple closure; and Howard Kelly, happily still among us, who perfected the technic of bisection and the technic of rotation which have put the largest tumors within the reach of surgery.

The secret of success in hysterectomy lies above all else in the proper control of the blood

supply. The uterine and ovarian vessels are ligated separately, being clamped before they are cut and ligated as soon as possible thereafter. The three-clamp technic is employed as an additional measure of safety on the upper broad ligament vessels, which are prone to retract and to cause a heavy loss of blood. The uterine vessels are fully exposed before they are clamped and cut, the space for manipulation, because of the proximity of the ureters, being too small to permit the use of triple clamps. The clamps are applied carefully and once for all, to avoid trauma which might in turn cause thrombosis and embolism, and for the same reason the sutures are tied behind the clamps rather than in front of them. Suture ligation is employed throughout rather than simple ligation in order to guard against a subsequent rise in blood pressure which might blow the ligatures off and cause fatal hemorrhage. With these and similar precautions it is possible to make of hysterectomy a practically bloodless procedure.

Growths of the multiple variety, which are so frequently seen in colored women, present many difficult problems. Such tumors are often so impacted in the pelvis as to fit it almost like a cork, tubal disease is often associated, and the release of the adhesions and the control of the blood supply are not easy to achieve. In such cases either the rotation technic or bisection may be employed. The rotation technic, which is also called the right-to-left or left-to-right technic, at the beginning of the procedure entirely ignores the diseased adnexa and the complicating adhesions. The tumor mass is gently rotated to one side so as to expose the top of the broad ligament on the opposite side, and the blood supply of that side is controlled under full visibility before the uterus is freed to the depths of the pelvis. After a similar procedure has been repeated on the opposite side the delivery of the mass is simple.

In the bisection technic the uterus is split in two longitudinally and is then cut across at the cervical level from the inner side. By this plan one is enabled first to reach and control the uterine vessels and then to work rapidly up the sides of the uterus to the ovarian vessels, reversing the usual procedure. With the elimination of half of the uterus space is secured for further manipulations and the danger of injury to the ureters is markedly reduced. The complicating condition is dealt with last of all, with the advantage of increased accessibility which in turn permits of greater deliberation. Bisection naturally adds something to the risk of operation, especially if the structures are very vascular, but since it is done in the midline no important vessels are

encountered and the risk is more than balanced by the additional safety which this maneuver provides. Kelly well describes it when he says that it is not an operation of choice but rather one of election in the cases in which lateral or posterior conditions demand it. I need scarcely point out that it is positively contraindicated in sloughing fibroids or in fibroids associated with sarcomatous degeneration or fundal malignancy.

In the multiple type of growth in which removal *in toto* seems impossible, morcellation, which is really a series of myomectomies, is frequently a wise plan to reduce the size of the mass and to simplify control of the blood supply; sometimes the removal of the largest fibroid, the "key growth," is sufficient.

Other minor points of technic may be briefly mentioned. The incision must be sufficiently long to secure good exposure, and retractors are inserted as promptly as possible to increase the visibility; distortion of the anatomy is so frequent in association with fibroids that one is never safe in cutting blindly. Exploration of the upper abdomen is not done if the operation is prolonged or if pus is present, nor is the appendix removed routinely; appendectomy introduces a definite additional risk which is not warranted unless appendiceal disease demands it. Skewers and similar instruments are not employed, and if the tumor is degenerating or there is a suspicion of malignancy even the volsellum should be omitted and the growth should be manipulated by clamps placed on the broad ligament. Special vaginal preparation is necessary when the complete operation is done, and an iodoform gauze pack is inserted into the vagina from the abdominal side before the vagina is closed. In short, while it is realized, as W. J. Mayo has pointed out, that the pelvic peritoneum of the female has developed by environment and heredity a remarkable ability to take care of itself, one is not justified in insulting it too far and one must provide for it as much protection as possible.

Before embarking upon the perennial debate of the complete versus the incomplete operation, may I pause to say a word concerning nomenclature? We have forgotten the classics, I admit, those of us who were fortunate enough ever to have had an acquaintance with them, but the grossest ignorance would scarcely seem to justify the confusion we have introduced into the nomenclature of hysterectomy. The term cannot possibly mean, as so many writers insist that it does, the removal of the adnexa as well as of the uterus; the adnexa have nothing whatever to do with the case. Panhysterectomy or complete hysterectomy means the removal of the entire uterus, and

supravaginal or incomplete or subtotal hysterectomy, as you will, means the removal of the uterus above the level of the internal os. The adnexa are separate considerations. Etymologically and surgically there is no basis for any other meaning. I recently read a paper in which the author devised his own definitions, apparently on the theory of the famous Alice, who said to Humpty-Dumpty, you remember, "When I use a word it means just what I wish it to mean—neither more nor less," and in which he achieved just as much obscurity as she did, for he ended by describing a group of operations as complete subtotal hysterectomies, which, being interpreted, can only mean complete incomplete hysterectomies—and that is a madness of etymology beyond mortal mind to comprehend.

Complete hysterectomy, the removal of the entire uterus, is advocated as a routine by some authorities on the ground that the extirpation of the cervix is a prophylaxis against the development of malignancy in the cervical stump. That the possibility does exist one cannot deny, but it seems hard to see why the danger should be any greater than it is in women who have not had their uteri removed. The incidence is generally estimated at 2 per cent, but two things must be borne in mind, that some patients when they are operated on for fibroids already have cancer which is not discovered until later, and that the incidence of malignancy of the stump must be figured on the basis of all the supravaginal hysterectomies that are done and not on the basis of selected cases. Shaw, for instance, reports three cases seen in eighteen months, but he very properly states that since these are the only cases he ever saw the incidence must be figured on all the hysterectomies he ever did and not on a concentrated run of bad luck.

To advise complete hysterectomy as a routine procedure because of the fear of later cancer would undoubtedly result in a far higher mortality than could ever result from terminal malignancy, for the dangers of hemorrhage, infection and ureteral injury are far greater than in the supravaginal operation, at least in the hands of the inexperienced surgeon. In the practice of the skilled surgeon both operations carry about the same mortality rates, but the mortalities usually quoted for hysterectomy need to be interpreted, as we have already pointed out, in the light of what the average surgeon and not the expert is likely to achieve. Against the possibility of a 2 per cent future malignancy, an estimate that is probably much too high, there must, as Black correctly points out, be set the 8 or 9 per cent mortality for the complete operation which is the mortality in

unselected cases, and it must be remembered, he goes on to add, that in every 100 cases in which the expert surgeon will lose one life his less skilled confrère will lose four.

It is obviously necessary to bear in mind the possibility of malignancy when hysterectomy is being done and to perform biopsy if there is the slightest suspicion that it exists. The complete operation is clearly indicated when the cervix is lacerated or is the site of infectious disease, although if the surgeon questions his ability to perform it or if it seems unwise because the vagina is short or the pelvis deep, or because the tissues are infiltrated by the inflammatory exudate, other expedients may be resorted to. Polak, who formerly advocated the complete operation routinely, later compromised on prophylactic cauterization or irradiation of the cervix. Cashman advises cauterization, on the ground that cancer most frequently develops in the vaginal portion of the cervix, and prefers amputation by the cautery to the reaming out of the canal which is sometimes advised, on the ground that the latter method does not eliminate the most potentially dangerous part of the cervical structure. Preliminary repair of the lacerations is sometimes preferable to the complete operation, as is the supravaginal amputation of the corpus after vaginal amputation of the cervix. That these measures are both safe and practical is proved by Pemberton's report from the Brookline Free Hospital for Women: 2066 supravaginal operations were done as compared with 22 panhysterectomies, yet only ten subsequent malignancies of the stump developed and in two of these carcinoma was probably present at the time of the original operation.

Routine removal of the ovaries after hysterectomy for benign uterine disease is in my opinion a most unjustifiable procedure. There may be still some debate as to their final fate after hysterectomy and their duration of function may be brief, but that they do function is beyond question, and it is likewise beyond question that the violent symptoms and even the occasional unbalance which may follow an abruptly produced artificial menopause are modified by their preservation. Moreover, the symptomatology of the delayed menopause, when it does occur, compares very favorably with that of the normal menopause. As Kelly remarks, while the disturbances of the climacteric may not be any worse in the surgical menopause than they are in the physiologic one, the surgeon is responsible for the first group of symptoms and nature for the second, which makes a decided difference. The one reason for removing ovaries after hysterectomy is that they are intrinsically diseased.

No other argument is valid, and Donald's plea that oophorectomy makes it possible to leave a clean pelvic floor with a linear scar running across it seems almost puerile; ablation of function for the sake of securing a purely anatomic result belongs to the dark ages of surgery and not to the modern era of physiology. Definite statistics are naturally hard to gather on a subject in which both the age of the patient and the personal equation are obvious sources of error, and abundant facts, to quote Holmes again, may easily be collected to prove anything whatsoever, but at that, there seems no question that both safety and comfort warrant the conservation of the ovaries; if pain does occur it is transitory, cystic disease is not very usual, and the necessity for subsequent surgery is almost negligible. Certain precautions, of course, are essential. The ovaries selected for conservation must be grossly healthy and normal, free from adhesions and apparently fit to function. The preservation of the blood supply is most important and is achieved more easily if the tube can be retained also. Torsion and displacement into the culdesac, if they seem likely to occur, are guarded against by the performance of some sort of suspension operation. Both ovaries are better than one, but one is better than none.

Hysterectomy is the accepted treatment of malignancy of the uterine fundus and should not be withheld except in the face of glandular involvement and peritoneal metastases, or unless the patient's condition, by reason of anemia, cachexia or general debility, would make surgery a forlorn hope. Even in moderately advanced cases, because lymphatic extension and blood stream extension are rare, the results of operation are frequently good, and the simple removal of the primary focus is the removal of the entire growth. While the radical operation is not required in this type of malignancy, the adnexa must be removed routinely regardless of the patient's age for they are often the site of metastases.

It is no longer believed as it once was that radium actually stimulates the tumor to fresh growth, and within recent years excellent results have been reported from this mode of treatment. Healy and Cutler in an exhaustive study of the cases handled at the Memorial Hospital in New York make a plea for the classification of fundal malignancy on a histologic basis and the selection of the mode of therapy on these findings. In the first three cell groups, according to their report, the results of radium and surgery are about equal, and only in the fourth group, the tumors which are highly malignant and which are therefore

resistant to surgery and sensitive to radium, does radium seem the preferential treatment. This group, fortunately, is very small, for my own belief, in spite of this report and similar ones, is that in the great majority of cases surgery should be the treatment of choice unless it is impossible or contraindicated. There are many reasons for this point of view, among which may be mentioned the notable unwisdom of basing treatment solely on histologic considerations, the difficulty, except in a few clinics, of securing competent histologic study, and the proven good results of surgery. It is quite true that irradiation has a practically zero mortality and that surgery has an initial mortality of 2 or 3 per cent, but it must likewise not be forgotten that in this type of malignancy, especially when fibroids are associated, necrosis, infection and other forms of degeneration are not infrequent and that irradiation is a very dangerous procedure under such circumstances.

It should be emphasized again that surgery for malignant disease is never justified on mere suspicion; it introduces a definite risk and a guess, as Moynihan well says, is a poor peg on which to hang a human life. The diagnosis should be positively established by laboratory measures before the hysterectomy is done. I had the wisdom of this step brought home to me a few years ago in a tragic, unforgettable manner. I had seen in consultation an elderly woman with all the hallmarks of fundal malignancy and I had advised a curettage for diagnostic purposes, with a rush examination of the scrapings, to be followed by immediate hysterectomy if the pathologist's report confirmed the gross diagnosis, as I was quite sure it would. The first part of my advice was disregarded, the curettage was omitted, hysterectomy was done at once and the patient died on the table from an unsuspected heart condition. The pathologist reported the uterus entirely negative for cancer, so that death must be set down as one that should not have occurred.

A careful inspection of the entire abdominal cavity should be the first step at operation, both to search for possible metastases and to make certain that the malignancy originates in the uterus and is not a downward extension from a process in the upper cavity, either of which findings contraindicate pelvic surgery. While we cannot support Sampson's quarrel with curettage as a dangerous procedure in fundal malignancy, we do believe that he is entirely correct in his contention that because of the danger of implantation metastases special care should be taken, before hysterectomy is done, to close every channel by which

malignant tissue might escape into the peritoneal cavity. These precautions include preliminary cleansing and packing of the vagina, closure of the cervical canal by suture of the external os, ligation of the fimbriated ends of the tubes, and double ligation of the round ligament and the uterine and ovarian vessels. Volsella, as has already been pointed out, should not be used nor should bisection ever be resorted to.

Chorio-epithelioma and sarcoma of the uterus and carcinoma of the cervix, which are characterized by their tendency to lymphatic and blood stream extension, demand a different point of view and require a different type of treatment. When surgery is selected as the form of treatment, everything in the pelvis must be removed which can be removed compatible with life. Local removal is futile and dangerous and widespread extirpation of the pelvic structures offers the only hope of cure. The entire uterus, the adnexa and the upper portion of the vagina must be removed and a wide dissection must be done of the parametrial tissues so that at the end of the operation the pelvis contains only the isolated ureters. The principle of the radical operation, as Crossen well expresses it, is the removal of the area of malignancy *en masse*, the line of incision being everywhere made in presumably healthy tissue. Hysterectomy for carcinoma, he points out, is very different from hysterectomy for benign conditions. In the latter the endeavor is to conserve tissue and the dissection is accordingly kept as close to the uterus as possible. In the former, the endeavor is to remove all the tissue that can be removed and the dissection is accordingly made as far from the uterus as is consistent with safety.

In surgery of this sort, which is as radical as can be done in the human body, it is not strange that there should be a shocking primary mortality. Even in expert hands the death rate runs from a minimum of 10 or 12 per cent to a maximum of 30 per cent or more. Berkeley and Bonney in 616 joint cases report a 17 per cent mortality, and while Bonney reports that his personal mortality has progressively decreased from 20 per cent in the first eight years in which he was performing the operation to 8 per cent in the last four, even 8 per cent is not a death rate to be viewed with complacency if equally good results can be achieved by another method which does not entail such a risk. It must be remembered, too, that this is the mortality of two of the most expert gynecologic surgeons in the world; in less skilled hands the figures would be considerably higher. The death rate of the radical

operation is perhaps the most cogent argument against the treatment of cervical carcinoma by surgery; the patient who dies after operation is irrevocably dead, whereas the patient who is treated by measures that are potentially less dangerous has a definite chance of living longer even though her span of life be short.

The second argument against the radical operation is that the average surgeon has not the faintest conception of how to perform it. I question very seriously Bonney's contention that the technic can be mastered by anybody with a moderate amount of dexterity who is willing to serve an apprenticeship to a surgeon already familiar with the technic. I believe the operation requires far more than a moderate amount of dexterity, and I question whether many men know how to perform it properly let alone teach it. The apprenticeship would have to extend over many years and would have to include far more than assistance at the operating table: no surgeon has a right to undertake a procedure of this magnitude without a thorough knowledge of surgical pathology and regional anatomy and without a long and wide experience in pelvic surgery. Part of the mortality of the radical operation is undoubtedly due to the fact that it has been performed in the past and is still occasionally being performed in the present by surgeons who do not meet these qualifications, and part of its poor results can undoubtedly be explained by the fact that the incomplete operation is frequently performed by these same men in the name of the complete.

Again, the estimate of operability is largely a personal matter. Wertheim reports an operability of 48 per cent. Bonney reports a general operability of 63 per cent, which rises in his private patients to 78 per cent, and that means either that he is seeing his patients far earlier than I am seeing mine, or that his courage far exceeds mine. The average American gynecologist, no matter how bold he may be, seldom admits an operability of more than 15 per cent, and it is my own opinion, to speak categorically, that the lower is the percentage of operability the greater is the patient's margin of safety. I see my own share of cancer, yet in the last ten years I have not been consulted by half a dozen patients upon whom I should have been willing to operate.

How widely the conception of operability varies is excellently illustrated by a story told by Heyman. He invited three prominent American gynecologists, Brettauer, Ward and Peterson, to examine a patient whom he himself considered in the borderline group. The three examinations resulted in three different opinions, that the case was operable, inoperable

and borderline. When experts disagree in this fashion there is little security for the average surgeon, who undoubtedly serves his patient's interests best by classifying all cases as either early or late, the old classification of the borderline group being permanently dropped, and by giving only the frankly early case any consideration whatsoever as a surgical possibility.

Finally, it is decidedly questionable, in view of the results reported from the clinics in which radium is used routinely, whether the end-results of surgery justify its continued performance. Shaw reports a 39.5 per cent curability over a five-year period, Berkeley and Bonney a 36.8 per cent curability. Bonney for ten years reports 24.4 per cent of cures. These figures are the best reported, for they are achieved in selected cases by surgeons who in all the world have done the most operations, but it must not be hoped or expected that the general adoption of the radical technic, even in this era of improved surgery, would be followed by any such general results. Jones' estimate of what really happens is a much more correct one. Accepting Wertheim's personal operability of 48 per cent and his five-year curability of 18 per cent, he points out that of 100 patients with cancer, 48 can be operated on. The minimum mortality of the operation must be figured at 12 per cent, which means that 42 survive operation. Eighteen per cent of these are cured, which means that only 9 of the original 100 cases survive for five years. Without considering any other point surgery has lost its case for, taking patients as they come, radium gives a curability at least twice as high and the initial mortality is lost.

In the early case of cervical malignancy, especially when the diagnosis must be made in the laboratory, the gynecologist who believes that surgery is the better method of treatment has a perfect right to his point of view, but for the case in any way advanced and in the opinion of most of us for all cases, radium is far and away the better treatment from every possible point of view. Whether the introduction of the radioknife will restore to surgery its lost prestige it is too soon to say, but as long as it must be done by the old methods it cannot hope to compete with a treatment that achieves results at least as good in the early cases and infinitely better in all other cases, with a negligible morbidity and with practically no mortality as compared to the inescapable morbidity and the heavy primary mortality which the surgery of malignancy carries with it even in expert hands.

It is a solemn thought that in this terrible disease there lie between the patient and certain

death only the wisdom and the skill of her physician, and that thought should make us consider well what plan of treatment we are going to adopt and whether, if we choose surgery, the end-results justify the risk. For my own part, I do not think they do, and I believe that I shall save many women in the future, just as I know I have saved many in the past, by staying my surgical hand and by offering to them the surer hope which radium holds out.

"There are many more things in the world," says the paradoxical G. K. Chesterton, "that are matters of opinion and many fewer that are matters of fact than most people suppose." I have not a doubt that he is correct, just as I have not a doubt that he is also correct when he says elsewhere, "A melancholy familiarity with most current thought, or thoughtlessness, leads me to advise men to listen to the advice that is given them and then do the opposite." You may feel that way, gentlemen, about the advice I have offered you tonight, for I have spoken to you dogmatically, I fear, concerning many things that perhaps are matters of opinion. In details I may be wrong, I grant you, but I am right, of that I am sure, when I urge you all and especially you young men who are soon to stand where we older men are standing now, to remember, whatever else you may forget, that no surgeon has a right to undertake surgery without a due consideration of what the patient may lose by his efforts as well as what she may gain. I have spoken to you of an operation which has in it unlimited possibilities of good but which likewise has in it equally unlimited possibilities of harm; which may restore a woman to health and usefulness but which may likewise rob her of happiness and of life. Hysterectomy is a two-edged sword, a procedure that should never be undertaken "lightly or unadvisedly." but only when one is certain, morally as well as clinically, that it is justified by the circumstances, that no simpler method of relief is possible, and that the end-results it is likely to achieve warrant the risk it is certain to introduce. The surgeon who charts his course by these basic principles will never, I am certain, be guilty of unnecessary surgery and he may be safely left to settle for himself the details of his surgical conduct.

512 Hibernia Building.

SENILE DEMENTIA

Senile dementia, the decay of the tissues of the brain, sometimes occurs with old age. It is not capable of cure. Malaria is being used extensively with striking success in the treatment of disease of the brain resulting from syphilis. Malaria will not cure senile dementia, *Hygeia* maintains.

RECURRENT PEPTIC ULCER

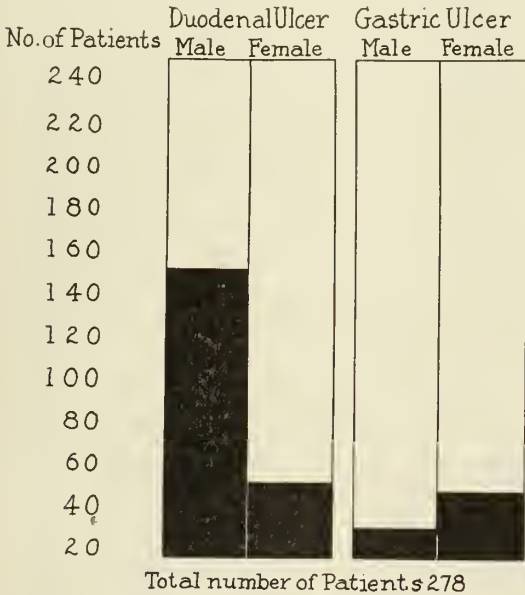
A CLINICAL STUDY

FRANK D. GORHAM, M.D.
ST. LOUIS

PART I. CLINICAL STUDY

This study of recurrent peptic ulcer is based upon an analysis of the records of two hundred and seventy-eight ambulant office patients with a diagnosis of peptic ulcer, hospital questionnaires and statistical records. It is realized that many factors influence the value of such a study but it is believed, in this instance, that the collected data are of sufficient value to justify certain inferences.

Incidence of Peptic Ulcer.—The two hundred and seventy-eight diagnoses of peptic ulcer represent approximately 7.5 per cent of



a group of ambulant medical cases examined personally over a period of ten years. The majority of the ulcer subjects, approximately 75 per cent, were in early middle life. The average duration of symptoms when first examined was 6.8 years; the shortest duration was one hour,* the longest fifty-four years. Duodenal lesions predominated, approximately three duodenal to one gastric. In the duodenal subject, males appeared over three times as often as females; the cases of gastric ulcer were more nearly equally distributed.

The average incidence in seven representative hospitals in different parts of the United States was 1.79 per cent of the total admissions. Probably one out of every four ulcer

* This was a case of acute perforation of a duodenal ulcer in a young man without previous symptomatology.

Table 1. *A Regional Study of the Incidence of Peptic Ulcer Based on Hospital Statistics*

Hospital	Total Admissions	Years	Cases of Peptic Ulcer
St. Vincent's, Portland, Ore.	51,328	6	559 or 1.08%
Presbyterian, N. Y.	37,427	9	730 or 1.9 %
Massachusetts General	81,069	12	2072 or 2.5 %
Cook County	203,952	5	1598 or 1.69 %
U. Michigan	78,551	4	1335 or 1.6 %
U. California	79,965	10	581 or .6 %
Mayo Clinic	76,390	1	2504 or 3.2 %
			Average, 1.79%

N. B. These seven hospitals were selected because of their regional distribution and the efficiency of their statistical departments.

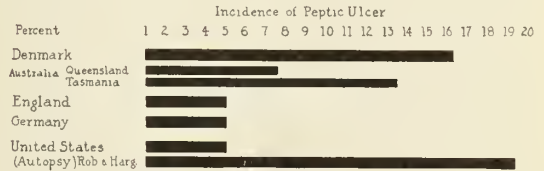
subjects undergoing medical management is compelled or chooses to seek hospitalization. Robertson and Hargis found that in 19 per cent of autopsies benign lesions of the stomach or duodenum could be demonstrated. Approximately 65 per cent of these lesions were in the duodenum and 35 per cent in the stomach.

Table 2. *Death Rate Per 100,000 Population in the Registration Area of the United States, 1921 to 1927, Inclusive*

Year	Ulcer of the Stomach	Ulcer of the Duodenum
1921	3.7	1.2
1922	3.8	1.3
1923	3.9	1.4
1924	4.1	1.5
1925	4.3	1.7
1926	4.3	1.8
1927	4.4	1.9

If the autopsy findings are indicative of the incidence of ulcer, then it would seem that probably no more than one out of four or five who have at some time a peptic ulcer ever develop symptoms sufficiently serious to seek medical aid. This lack of symptomatology may be due partly to the peculiar sensibilities of certain individual groups. From a study of hospital records over a period of ten years, peptic ulcer shows a relative increase as compared to general admissions.*

Influence of Climate.—The influence of seasonal changes upon ulcer symptomatology is well known. It would appear that the incidence of peptic ulcer is lower in a hot and higher in a cold climate; this being true both



north and south of the equator. This graduation of increased incidence from hot to cold is suggested in a recent investigation by Apperly of Australia, and a comparison of certain sta-

* Of interest is the report of the Bureau of the Census of Washington, D. C., giving the death rate from 1921 to 1927 as three times as frequent from ulcer of the stomach as from ulcer of the duodenum (Table 2).

tistics of the United States, Central Europe and Denmark. Two questions arise: Is the incidence of peptic ulcer higher in a cold climate, or does a cold climate influence the symptomatology of ulcer? Of particular interest is the work of Sundstrom (1926) who found that in tropical climates, human individuals developed an alkalosis. Apperly and Semmens (1928), of Australia, showed that the experimental production of alkalosis, however produced, resulted in considerable diminution of gastric acidity and emptying time of the stomach and, conversely, acidosis raised gastric acidity and prolonged the emptying time. It has been shown that external heat to the body lowers both gastric acidity and gastric tonus while cold increases both.

Heredity.—Contrary to some opinions, a study of our subjects showed that a familial tendency or susceptibility occurs too frequently to be a mere coincidence, being demonstrable in 15 per cent of this group. It was especially noteworthy that this familial tendency was always confined either to gastric or duodenal ulcer, it not being recorded in a single instance where both lesions were noted in the same family. For example, (1) the mother was operated on at the Mayo Clinic for ulcer of the duodenum. One son, a medical student, was operated on for ulcer of the duodenum. A second son has a typical history and roentgen ray findings of duodenal ulcer. (2) A physician has had several gastric hemorrhages with a demonstrable gastric ulcer. One brother died from perforation of a gastric ulcer. Another brother has had a resection of the stomach for gastric ulcer.

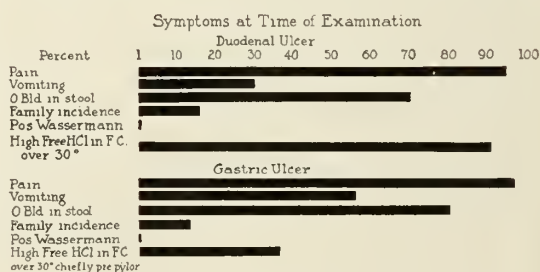
Characteristics.—Physical: Much interest has been manifested in the relationship of certain physical types to the occurrence of peptic ulcer. Especially noteworthy is the work of Stiller, Mills and Draper. Certain physical traits, particularly habitus, have been described. However, an attempt to interpret the importance of the physical characteristics in so small a group is impossible. When speaking of habitus, one must always take into consideration the normal relative frequency of a particular physical type and the gradation of different types to one another. Psychoneurological: In regard to the psychoneurological make-up of these individuals they were, as a group, notably similar. An autonomic imbalance, as denoted by vagus hyperirritability, was the rule. A fluctuating systolic blood pressure and hyperactive reflexes were frequently found. They were characterized by their mental alertness, somewhat similar to the hyperthyroid group, appearing temperamental with a tendency to irritability. Dr. A. B. Jones

made a study of some of our patients and was of the opinion that while their intelligence was somewhat above the average it was the irritability, anxiety, or tenseness shown in their psychic behavior that was most pronounced. While difficult to describe as a group, the peptic ulcer subject easily stands apart temperamentally as compared, for instance, to the gallbladder subject. I have not been able to differentiate between the gastric and duodenal patients as to mental or physical characteristics.

The ulcer individual usually belongs to the upper or middle mental and economic stratum of society. Early peptic ulcer is seldom found in a free clinic. In our group the professional classes, lawyers, doctors, teachers and detectives were especially prominent.

The influence of mental stress as to exacerbation of ulcer symptoms and even demonstrable pathological lesions appeared to be of equal importance to temperature and seasonal changes. Chronic ulcer, especially duodenal, occurred practically always in otherwise healthy individuals. However, syndromes often associated with an autonomic imbalance were frequently found, especially spastic constipation and colitis. Many patients, particularly with gastric ulcer, had been operated on for appendicitis or gallbladder disease. Syphilis and active tuberculosis were exceedingly rare in this series. Chronic infections did not seem to be significant. However, acute infections were frequently associated with recurrence of symptoms.

Symptoms.—The analysis of epigastric pain, which occurred in 90 per cent of cases, as to character, mode of onset, and especially how relieved, was of equal diagnostic significance to the roentgen ray. Vomiting was a less frequent symptom and occurred more often in gastric ulcer. Gastric fluoroscopy gives a moving picture, while the chief use of the roentgen ray plate which is a still photograph is for the



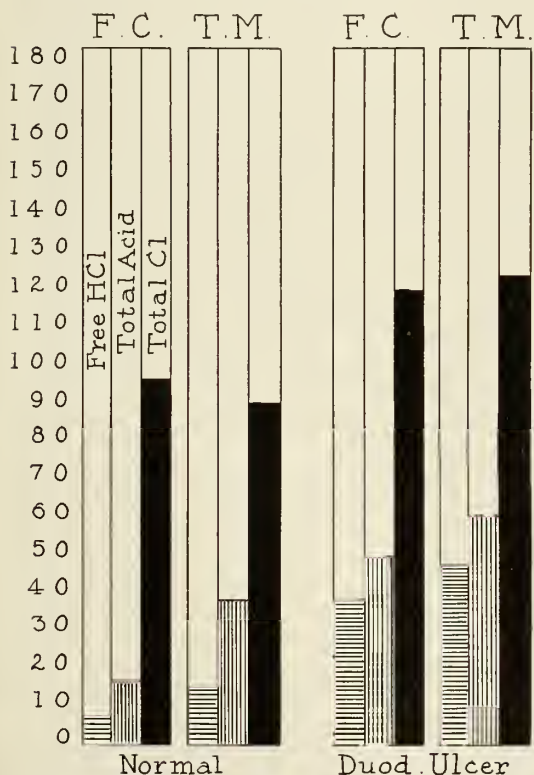
record of the case. While a positive roentgenological finding of peptic ulcer, such as a deformed duodenal cap, a niche or crater, is spectacular in its conclusiveness, negative roentgen ray findings on the other hand,

especially of the stomach, may be misleading, a fact that has not been sufficiently emphasized.

Blood studies in peptic ulcer have been chiefly of academic interest. In duodenal subjects, it was noted that when hemorrhage was not severe a high hemoglobin with a tendency to polycythemia was frequently found, and also that where severe hemorrhage occurred these individuals, as a rule, made a remarkably quick recovery from what appeared to be an alarming situation.

A high concentration of free hydrochloric acid in the stomach during the interdigestive period was nearly a constant finding of duodenal and prepyloric ulcer.

It has been my observation that the nearer the ulcer is situated to the pylorus, duodenal or gastric side, the higher the gastric acidity. An ulcer in the stomach away from the pylorus, especially high in the lesser curvature, frequently showed a low amount or absence of free acid in the fasting contents or after a test meal.* In contrast to various other stomach conditions, the small amount of mucus usually found in the stomach contents is noteworthy.



* The gastric juice as secreted retains for the individual a fairly constant acid concentration during the digestive period. The variable acid concentrations as found in the test meal examination—both the fractional and the single aspiration procedures, are dependent on dilution, motility and neutralization as well as on the rate of secretion of the gastric juice and must be so interpreted.

The chloride concentration of the fasting contents and after a test meal was higher in the duodenal than in the normal subject. This was not the case in gastric ulcer. The finding of sarcinae and food residue in the fasting contents of the stomach were indicative of pyloric obstruction, frequently associated with an ulcer near the pylorus producing spasm, or old healed ulcer with cicatrix formation; but it should be remembered that similar findings were repeatedly observed in inoperable cancer of the stomach situated near the pylorus and producing obstruction. I have never noted the presence of Oppler-Boas bacilli in the gastric contents except in cancer of the stomach.* Blood in the stool and gastric contents occurs at some time in all cases of peptic ulcer.

PART II. MANAGEMENT OF PEPTIC ULCER

Management.—The specific causes of peptic ulcer and the factors of its chronicity are yet to be established. There is no conclusive evidence to show that there is any relationship between the acute type of ulcer of the stomach or duodenum that heals promptly, the one experimentally produced in the laboratory animal, and the clinical peptic ulcers occurring in certain individuals and characterized by chronicity and periodicity of symptoms.

There still exists between some surgeons and some internists a controversy as to the treatment of peptic ulcer. Balfour as a surgeon admits that the normal tendency of chronic peptic ulcer is to recur. He also states that, in his opinion, it is not possible to apply the principle of partial gastrectomy as a routine in duodenal or gastric ulcer without a mortality rate higher than the normal course of the disease. He also states that an operation, such as an excision with pyloroplasty or gastro-enterostomy, will be accompanied by the operative surgical risk of less than 1 per cent. Do these latter operations offer a more permanent relief for recurrent ulcer than medical management? The internist realizes the value of surgery in complications of ulcer, such as perforation, pyloric obstruction due to scar formation, and in prepyloric lesions where a differential diagnosis between cancer and ulcer may be an impossibility, but the use of as simple a procedure as a gastro-enterostomy or pyloroplasty is not always followed by the low mortality or the permanent cure frequently claimed by the average surgeon.

Cancer versus Ulcer.—Statistics and experience do not indicate that gastric ulcer subjects are more likely to develop cancer of the

* Oppler-Boas bacilli in the gastric contents have been reported in achylagastria associated with pyloric obstruction of benign origin.

stomach than individuals without a previous ulcer history. I have seen only one instance of a patient undergoing ulcer management subsequently developing cancer of the stomach. *It is not so much the question of whether or not a benign gastric ulcer will become malignant as whether or not the middle aged patient has primarily a benign or malignant ulcer of the stomach.* This diagnosis, especially where there is a prepyloric lesion, is sometimes impossible even when studied surgically, microscopically, and by the roentgen ray.

If classified according to response to medical management I would place first, simple duodenal ulcer without complications; second, duodenal ulcer with obstruction due to pylorospasm and third, gastric ulcer fairly acute of the lesser curvature well beyond the prepyloric region. In my experience, prepyloric lesions and jejunal ulcer following a gastro-enterostomy are very resistant to medical management.

Much has been written pertaining to the relative therapeutic importance of empiricals, such as bismuth and foreign proteins. It has always been of interest to me that bismuth has been used over such a long period of time for the relief of gastric symptoms. It does not act as an alkali of any importance, does not coat the ulcer as has been demonstrated by roentgen ray, and pharmacologists tell us that it is poorly absorbed from the intestinal tract. Nevertheless, bismuth has retained its place in the treatment of peptic ulcer. We have given bismuth hypodermically for peptic ulcer but the cases are too few to justify drawing any conclusions. Foreign protein was injected intravenously in a number of hospital cases but without any apparent influence upon the ultimate course of the ulcer.

Many dietary régimes have been recommended for peptic ulcer. These diets include almost every known food combination. There is one principle involved in these diet régimes that seems to be outstanding and almost common for all, namely, *the giving of small feedings of bland food of high caloric value at frequent intervals.* The primitive food, milk, is the most common one used. *Frequent feedings of food call forth continuous gastric function,* both secretory and motor.

It has long been the supposition that free hydrochloric acid and pepsin, especially during the interdigestive period, have acted in a detrimental way upon the healing if not being the actual cause of ulcer. Certain procedures have been advocated to produce the continuous neutralization of gastric juice as secreted into the stomach. It may be truly stated that a continuous neutralization of the gastric juice,

especially in the region of the ulcer, is a therapeutic impossibility. On the other hand, alkalies in the stomach act similarly to food, that is, alkalies stimulate gastric function both secretory and motor. They also neutralize a certain amount of acid and some of them influence body chemistry.

There are no conclusive experiments showing that alkalies because of neutralization of the acid aid in the healing of the ulcer. Alkalies relieve symptoms but not in proportion to their alkalinity or acid-combining power.

It is plausible to assume that hypersecretion of hydrochloric acid in the stomach is a compensatory reaction phenomenon in peptic ulcer. Biologically speaking, the presence of hydrochloric acid in contact with the gastric and duodenal mucosa is a normal state. It is as reasonable to believe that an injury to the mucosa might produce a compensatory increase of secretion of gastric juice as to believe that the neutralization of hydrochloric acid, a normal constituent of the gastric juice, will prove beneficial in the healing of the ulcer.

It has been demonstrated that in peptic ulcer there occurs in the stomach and duodenum a state of hyperirritability, both secretory and motor, this being especially evident during the interdigestive period. In ulcer management, an attempt is made to control or counteract the effect of this secretory motor dysfunction by mental rest, diet, sedatives and antispasmodics. Sedatives and antispasmodics to their physiological limit are of special value in the treatment of ulcer, relatively greater than alkalies.

Comment.—It is necessary to treat ulcer subjects as ambulatory cases, even those who are able to spend some time in the hospital. The relief of subjective symptoms, especially in uncomplicated duodenal ulcer, by nonsurgical management is at times spectacular. The same may be said for pyloric obstruction due to pylorospasm secondary to a duodenal or prepyloric ulcer. Also convincing is the disappearance of the niche in gastric ulcer as studied roentgenologically. Results of questionnaires sent to a group of my ambulatory patients showed that 32 per cent complained of difficulty in following the régime at home; 77 per cent were relieved of subjective symptoms; only 38 per cent claimed to have remained entirely free from symptoms after two years. In no instance, whether treated as ambulatory cases or hospitalized, did the duodenal deformity as determined roentgenologically disappear. In the majority of the gastric ulcer subjects the niche disappeared promptly. Except in the pyloric obstruction cases, the gastric acidity was not influenced.

Approximately 85 per cent of the pyloric obstruction cases proved to be due to spasm rather than to cicatrix formation.

In the management of uncomplicated peptic ulcer, of chief importance is an early diagnosis, a definite régime including rest and frequent feedings of bland diet, alkalies to control pain, sedatives and antispasmodics to their physiological limit. A change of environment frequently contributes to the early relief of symptoms. The patient must be especially careful to return to a strict régime on the first reappearance of symptoms, which are especially likely to recur in the spring and fall or after unusual physical or mental stress. The high percentage of "permanent cures" claimed by both internists and surgeons is, in my mind, erroneous.

Once an ulcer subject, the tendency for ulcer symptoms to reappear due to a recurrent ulcer in that particular individual remains for his life time; but a patient with either gastric or duodenal ulcer without complications may expect a clinical cure of that particular ulcer by nonsurgical management if treated individually. The ulcer subject is similar to the diabetic where so much has been accomplished by early diagnosis and management of the mild case.

406 Lister Building.

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AN ATTEMPT TO EVALUATE TRANSURETHRAL PROSTATOTOMY IN BLADDER NECK OBSTRUCTIONS*

ERNEST G. MARK, M.D.

KANSAS CITY, MO.

For approximately one hundred years since the pronouncement of Mercier as to his prostatic bar there have been frequent and abortive attempts to devise some instrumental procedure to deal satisfactorily with obstructive uropathy at or in the vesical neck other than actual hypertrophy or hyperplasia and adenomatous change. The Bottini cautery incisor introduced by him in 1874 and modified by Freudenberg in 1897 received a certain amount of popular acclaim. In 1901 Chetwood modified this instrument so it could be used through a perineal incision. Later, about 1906, Wishard of Indianapolis utilizing Chetwood's idea, so changed the instrument that it could be used under air inflation and direct vision. In 1909 Young presented his "cold" punch and in 1919 the cautery punch of Caulk was introduced. The latter instrument became perhaps the most popular of those presented for handling bar formation and bladder neck contracture.

In 1914 George Luys of Paris introduced his "Forage de la Prostate" by which under massive fulguration he destroyed not merely the smaller obstructions but the larger ones encountered in true prostatic hypertrophy. Despite his report in 1926 of 146 cases so treated with good results in 132 of the series, the method did not find favor. In 1926 Maximilian Stern presented his resectoscope. In the same year Collings presented his radiotherm knife for contractures and bar formation and Foley his cutting wire. In rapid succession have come Davis of Charlotte, N. C., reviving the Stern principle, Day of Los Angeles, Kirwin of New York and McCarthy of the same place, Braasch and Bunpus of the Mayo Group, and numerous others with some new idea or modification, the various authors proposing attacks upon anything from bars and median lobe hypertrophy to lateral lobe involvement and massive adenomatous obstruction of any type. A preview of the oncoming urological literature finds it teeming with procedures of a similar type.

The very fact that the past few years have been so prolific in such presentations, together with the proposed flood of instruments and devices directed at bladder neck obstruction,

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would seem to us to accentuate several propositions, viz.: (1) That no one procedure has proved satisfactory in handling all types of bladder neck obstructions; (2) that the various instruments so far devised have of themselves proved unsatisfactory, for each has had its proponents and adherents who have with very few exceptions partly or totally abandoned them, and (3) that the high morbidity and mortality of the open operative procedures in prostatic obstructions in the hands of the general surgeon have spurred the urologist to adopt methods apparently more benign and salable to the laity.

In the evaluation of any procedure directed toward the correction of any surgical abnormality three factors present themselves. First: The underlying pathological conditions together with the extent of such pathological change; second, the consideration of the patient as a whole, and third, what procedure best adapts itself to obtaining a permanent result in the relief or cure of the condition for which the patient presents himself, always taking into consideration morbidity and mortality.

While there may still be some confusion in the classification of the causes of bladder neck obstruction, we believe the following broad statements may be accepted as true: First: The obstruction may be the result of a chronic prostatitis with a true hyperplasia of all essential elements; second, it may result as a fibrosis with bar formation, arising from the suburethral glands or bladder neck contracture, and third, the pathological picture may be that of adenomatous change, cystic degeneration or malignancy.

Although it is practically impossible clinically to make an exact diagnosis of the pathological condition before the laboratory report is received, we may with certain restrictions draw some definite conclusions from the history of the case and the reaction of the patient during the decompression period, it being assumed of course that each individual with bladder neck obstruction goes through the preoperative measures of repeated blood chemistries, renal function tests and cardiographs and is given the usual supportive treatment. During this period any instrumental investigation beyond the passage of a catheter is to be condemned, with the possible exception of air cystography. Until the maximum of stabilization and the minimum of risk have been obtained, cystoscopy is absolutely contraindicated.

If the surgeon finds the urethral length gradually decreasing under decompression and the residual growing less and less while a re-

peated cystogram shows the prostatic encroachment to have grown markedly less, we may feel reasonably safe in assuming that we are dealing with a hyperplasia plus a congestion, and that this particular case may be treated by some conservative method, such as prostatotomy, which should give complete relief, such procedure to depend entirely upon what is revealed by cystoscopic examination. If, however, at first examination there is found marked increase in the urethral length and after decompression the cystogram shows a large intravesical encroachment by the prostate, the shadow growing but little if any less we may, I think, assume that the character of the growth is adenomatous and no relief may be expected short of surgical removal of the gland by prostatectomy. We hold the same view as to cystic degeneration of the prostate as such changes are progressive and recurrent. If massive carcinomatous change is present without bony metastases and with marked residual, I believe the interests of the patient are best served by surgical removal as far as possible with radium implantation. If bony metastases are present with obstruction to the urinary outflow to any marked degree, transurethral resection of as much as possible of the obstruction is indicated.

We have always believed drainage in urinary obstruction to be of paramount importance and we find nothing in our experience or in the literature to alter this belief. Catheter decompression and drainage per urethram quite often answers this purpose but there is a fairly large percentage of cases in which such drainage is inadequate and suprapubic cystotomy becomes a necessity. Certainly, in such cases transurethral methods should not be employed.

Two arguments have been presented by the proponents of transurethral prostatotomy. It is stated, first, that it is a relatively benign procedure and, second, that it may be used where the general condition of the patient, as shown by electrocardiography, renal function tests and blood chemistries, contraindicates open removal of the gland. To this statement we should like to take exception. It is, we think, generally accepted that the vast majority of such cases may be gotten into condition for surgery. Where the condition of such patients remains unimproved or tends to become progressively worse, not even minor prostatotomy should be considered. At the most, suprapubic drainage over a long period of time offers the best hope. Again, any time-consuming procedure which requires for its consummation as long as from two to three hours on the operating table cannot be considered benign no matter what anesthetic is used. Fur-

ther, if such operative interference is accompanied by any marked degree of bleeding at the time of operation, and where there is no effectual means of controlling postoperative hemorrhage, it must be approached with the highest degree of caution. That such bleeding does occur in the acute congestive period in those cases and in those prostates where an attempt is made to remove too much material will, we think, be acknowledged by the proponents of the resectoscope.

That the need for some instrument for bladder neck resection, best represented at this time by the loop resectoscope using the undamped current, is unquestioned. That its use will entirely supersede attempted prostatectomy in the small fibrotic prostate, bladder neck contracture, prostatic bar formation, or in small medium lobe obstruction, we do not question. Further, we feel assured that its use will be restricted to this type of cases together with the type spoken of in carcinoma of the prostate. The differentiation of the various types can only be properly evaluated by the urologist or by the rare general surgeon who has had long and special training in urology and is a skilled cystoscopist, for only in the hands of one skilled to the greatest degree in cystoscopy can the resectoscope be used.

For a number of years we have been interested in vesical neck resection having first employed the Freudenberg modification of the Bottini instrument. We have used the punches, both cold and cautery, and have no word of praise for them—only condemnation. Out of several cases of "forage" of the prostate as advocated by Luys we had one good result and we abandoned it. The Collings electro-tome in our hands was a disappointment but we believe that in the loop, or some similar instrument yet to be devised, we have or will have an instrument of inestimable value in selected cases.

Being of an investigative turn of mind and in these days of depression not having either the inclination nor the where-with-all to purchase all the various instruments recommended, we employed the time-honored method of the questionnaire, sending it to sixty-five of the best known urologists in this country and in Canada. No particular selection of names was made except the unquestioned standing of the individual as a urologist, and in no few instances this questionnaire was sent to those who we had every reason to believe were enthusiastic supporters of resecting instruments. From the sixty-five questionnaires, thirty-six answers were obtained, many going into detail.

The following is the questionnaire and the opinions expressed in the thirty-six replies:

1. In your opinion have any of the various electrotomes, punches, cold or cautery, or vesical neck resectors or incisors, replaced prostatectomy in benign hypertrophy of the prostate?

Two answered yes, twenty-nine no and five expressed themselves in favor of the procedure in certain selected cases.

2. Have you performed prostatectomy following the use of any of the above procedures; if so, have the previous measures contributed any difficulties to enucleation?

Twenty-seven answered in the affirmative, two made no statement, seven answered no. In only one instance was the statement made that the former procedure added any difficulty to the prostatectomy.

3. Have you had any failures, complications or fatalities in the use of any of the so-called conservative transurethral operative procedures? If so, explain briefly.

Twenty-six reported complications or fatalities, the complications varying from lack of relief of symptoms to deaths. Seven gave no answer, three reported that they had had no complications, six of the twenty-six reported "repeat" operations. Seven deaths were reported by five men. The Mayo group reports a 3 per cent mortality rate in approximately two hundred and fifty cases. The morbidity is not stated.

4. If you are using transurethral electrical devices, what particular procedure do you prefer and in what type of cases do you consider such procedure applicable?

The answers to the fourth question were so varied that no compilation could be made.

5. In obstructive carcinoma of the prostate do you consider some one of the transurethral electrical procedures advisable?

Three made no statement, thirty-two believed some resecting measure should give relief, and one disapproved of any procedure directed at the obstruction.

I feel quite well assured that the resectoscope or some similar instrument has a valuable place in bladder neck obstruction. I feel further that its use must be preceded by careful preparation of the patient and proper evaluation of the character of the obstruction, and my only fear is that hyperenthusiasm and exaggeration may react to the disadvantage of such procedure. Only after a period of at least five years of follow-up work on a large number of cases can it be given its proper place.

632 Professional Building.

BERIBERI

In the extreme southeastern corner of Indo-China many persons eat appetizing dishes of polished rice, a dish more attractive than the whole rice; moreover many of these persons do not live where they can get fruits and vegetables. As a result in one of the richest provinces of Indo-China an increasing number of people have been dying every year from beriberi, an article on that subject in *Hygeia* states.

SKIN MANIFESTATIONS OF VISCERAL DISEASE

VISCEROSENSORY ASPECT OF CHOLECYSTITIS,
APPENDICITIS AND PROSTATOVESICULITIS *

LEE D. CADY, M.D.

ST. LOUIS

Textbooks have long been illustrated with charts indicating the locations of referred pain emanating from various internal organs, and it is not common to find such charts further illuminated by an explanation of the mechanism of such referred pain. Rather recently it is a common occurrence to find a single issue of a medical journal largely filled with reports of symposia on pain in such common conditions as headache and backache. As a rule, these symposia are informative but fail to include any new contribution. This sterility is undoubtedly due to the fact that there is so little known of the sympathetic nervous system, and because the rank and file of the medical profession are not familiar with what we do know. Unfortunately, the meager information of the sympathetic nervous system that is available is too often neglected in these symposia because of an inherent fear of becoming inextricably involved in its morass of functions. This paper is also an admission of the same fear by the author. It is a statement of observed facts and with no emphasis on the nervous mechanism of their production. Furthermore, it is circumscribed by confining the subject to tension or irritation rather than inflammation in the viscera.

Several years ago, while doing a sensory examination on a man supposedly cured of lues of the central nervous system, a saddle-shaped area of hyperalgesia was found over the buttocks and legs. At once, a conus lesion was suspected but since the man did not have sufficient disability to justify an exploratory operation he was observed for several months while his subacute prostatitis was treated. As the prostatitis improved so did the abnormal sensory finding. This stimulated interest in similar patients in whom the same condition was found in various degrees.¹ Since that time analogous areas of hyperalgesia have been found in other chronic visceral diseases.

Ross² made some of the earliest and most illuminating efforts at explaining the mechanism of peripheral projection of painful sensations of visceral origin. Had he only made a more detailed study of the sensory condition of the skin segments this paper would undoubtedly have been anticipated. Even Ross was an-

ticipated somewhat by Sturge³ whose explanation of the pain reference in angina pectoris needs little modification after more than forty-five years. Head's⁴ law governing sympathetic pain reflexes between visceral and skeletal structure is:

When a painful stimulus is applied to a part of low sensibility in close central connection with a part of much greater sensibility, the pain produced is felt in the part of higher sensibility rather than in the part of lower sensibility to which the stimulus was actually applied.

The mechanism of the sensory hyperalgesia described herein is undoubtedly the same as the stronger and more dramatic pain, since it is perforce either a residual symptom of the pain or a sensation below the pain threshold for consciousness of pain.

Since the time that Head enunciated his law there has been more and more time and effort devoted to the mechanism of visceral pain. Mackenzie in a personal communication to Ryle,⁵ expressed the belief that the only known stimulus that produces pain in the tissues which are supplied only by the autonomic nerves is the contraction of muscle. Ryle prefers to believe that the pain is due to an abnormal increase in tension in the muscular element of the wall of the viscus. This viewpoint seems the more logical since no pain results from the contraction of smooth muscle, unless the tension is more than normal for the ordinary function of the organ; e.g., pain due to intestinal spasm or to distention.

Livingston⁶ has made a study similar to this one in cases of acute cholecystitis. He concluded that a skin hyperesthesia always develops in cases of acute cholecystitis. By comparing the sensations aroused by vigorously pinching or twisting the skin in the various quadrants of the abdomen it was found that there was an unusually sensitive area centering at the tip of the right ninth costal cartilage. He did not believe light scratching with a pin gave accurate results. Friedman⁷ has described ways of eliciting tender pressure points in so-called symptomless gallstones. These spots were in the eighth, ninth or tenth interspaces. He believed that these tender spots were due to small metastatic areas of infection in the intercostal nerves. Since the ninth intercostal nerve supplies the skin in these segments it is also safe for one to presume that they originate reflexly rather than in the ninth intercostal nerve itself.

The value of ascertaining such areas of cutaneous hyperalgesia is of no great usefulness unless all nonvisceral possibilities are ruled out. Moschowitz⁸ pointed out that arthritis of the costochondral junctions, neuritis, "slipping"

* From the Soper-Mills Clinic, St. Louis.

rib, hernia or muscular pains may be confusing. Carnett⁹ believes that pain or hyperalgesia in the right upper quadrant of the abdomen is usually overrated as a diagnostic sign of cholecystic disease since it is *frequently* (italics ours) due to intercostal neuralgia. He wisely refrains from laparotomy unless there is a thoroughly reliable history or conclusive laboratory evidence of disturbance of visceral function. It is common knowledge that arthritis of the spine, localized pleuritis, coronary disease, tabes dorsalis and herpes zoster may be misinterpreted and lead to unnecessary operations.

TECHNIC

Since pain is subjective, it is also largely a matter of intensity of nervous impulses traveling over pain-conducting nerve pathways to pain perceptive centers. That is, a subminimal stimulus to pain end-organs is not perceived by the patient as pain but as a vague discomfort, or he may ignore it entirely. Nevertheless, it is thought the mechanism of pain perception may be utilized to the diagnostic benefit of the physician without the patient's invariable awareness of pain.

The patient is placed in a prone or supine position and instructed to relax himself as much as possible. His apprehensiveness is relieved by taking the arm as a site for instruction. As a rule, the following simple procedure is carried out:

"Now, I wish to test the sensation in your skin. When I draw this pin over the skin at an even pressure it feels the same throughout, doesn't it?"

The patient invariably answers in the affirmative.

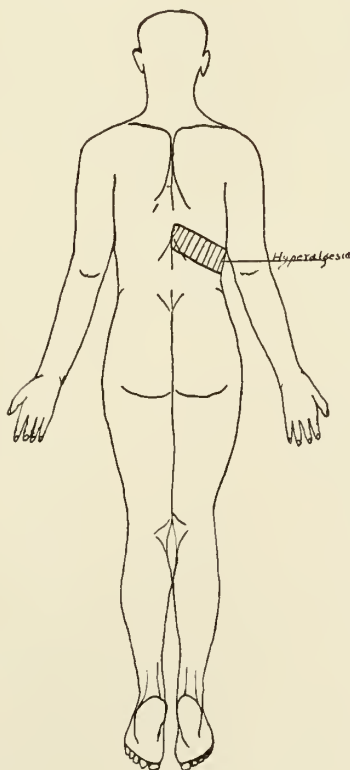
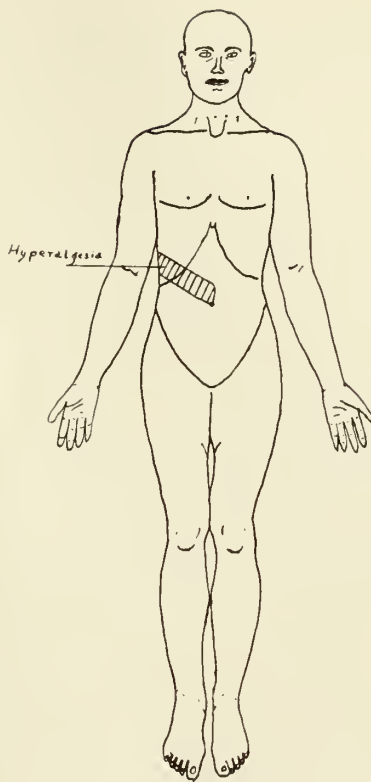
"But when I draw it along the skin and then press a little harder it feels sharper, doesn't it?"

Again the answer is in the affirmative.

"That is the manner in which I wish to test the skin sensation. You tell me where you feel the pin become sharper. Not what you may think, but just what you feel."

The examination proceeds. The pin point is then drawn from normal skin segments toward the suspected area. It is essential to preserve an even pressure upon the pin. As soon as the pin point arrives at the hyperalgetic skin segments the patient often winces but will usually be unmistakable as to the point at which the change in sensation occurs. The place is marked and the entire hyperalgetic area is outlined by systematically dragging the pin toward it from all directions.

While such outlines may sometimes be indistinct they may often be elicited with undoubted precision by having the patient exert sustained pressure sufficient to cause pain in the region of the suspected organ while the skin is again tested for hyperalgesia. This procedure causes increased intravisceral ten-



sion and thereby increases the intensity of the impulses through pain reference pathways but so far as the writer's experience goes it has never caused hyperalgetic skin segmentation overlying normal organs.

MATERIAL AND DISCUSSION

The patients studied are grouped according to the visceral organs under consideration. The very great majority of the patients were examined by the writer and the diagnosis made, with or without the aid of the above technic, before they were referred elsewhere for diagnostic confirmation or definitive treatment. Thus was an effort made to test the objective value of the technic.

While the writer is confident that the sensory examination of patients suffering from certain thoracic and gynecological diseases is a valuable aid in establishing diagnoses, the data collected thus far on these conditions are too insignificant to be conclusive in such a con-

tribution as this and therefore they are omitted from consideration here.

GALLBLADDER

The patients in this group were limited to those who were discovered to have the hyperalgesia in the right ninth thoracic segment during a general diagnostic examination. No patients with known gallbladder disease were examined to discover whether or not the hyperalgesia were present. The viewpoint of the study has been to determine the diagnostic value of the segmental skin hyperalgesia if it is present. *A priori* conclusions were further eliminated by making these sensory examinations before roentgen ray examinations were started.

Table 1 gives a summary of the patients and the findings. The table includes only those patients who had roentgen ray or operative confirmation. A few patients who were seen in undoubted gallstone attacks are not included

Table 1. Gallbladder Group

Patient	History		Physical Examination		Roentgen ray Examination		Operative		Sensory	Remarks
	Sug-gestive	Typ-ical	Sug-gestive	Typ-ical	Abnor-mal	Nor-mal	Patho-logical	Nor-mal	9th Thoracic Hyperalgesia	
E. L.	x		x		x		x		x	
R. R.		x		x	x				x	
J. S.		x		x	x		x		x	
L. E.	x		x		x				x	
M. R.	x		x		x				x	
M. W.		x	x		x		x		x	
M. M.		x		x	x		x		x	
E. M.	x			x	x				x	
H. B.		x		x	x				x	
A. P.		x		x	x				x	
M. R.		x		x	x				x	
M. U.		x		x	x				x	
M. C.		x		x	x		x		x	
A. K.		x		x			x		x	
W. F.		x		x	x				x	
F. J.	x		x		x		x		x	
R. B.	x			x	x				x	
R. H.		x		x	x				x	
A. L.		x		x	x		x		x	
M. W.		x		x	x				x	
R. S.		x		x	x				x	
R. M.		x		x	x				x	
M. C.		x		x	x				x	
H. C.	x		x		x				x	
P. B.	x		x		x				x	
J. S.		x		x	x		x		x	
D. F.	x			x	x		x		x	
G. C.		x		x	x				x	
H. B.		x		x	x		x		x	
B. B.		x		x	x		x		x	
R. S.		x		x	x		x		x	
L. H.		x		x	x				x	
M. H.	x			x	x		x		x	
L. T.		x		x	x				x	
M. V.		x		x	x		x		x	
M. R.		x		x	x				x	
E. S.		x		x	x				x	
R. W.	x		x		x				x	
M. S.	x			x		x			x	Mild acute cholecystitis
K. G.	x		x			x			x	Allergy
S. E.		x		x					x	Duodenal ulcer
G. L.	x		x			x			x	Allergy
G. D.	x		x			x			x	Atonic constipation, nervous dyspepsia
A. H.		x		x		x			x	Spastic constipation
M. S.		x		x	x				x	
M. S.		x		x			x		x	Gallstones
D. S.	x		x		x				x	Allergy
H. W.		x		x	x		x		x	

because they did not have these confirmatory tests.

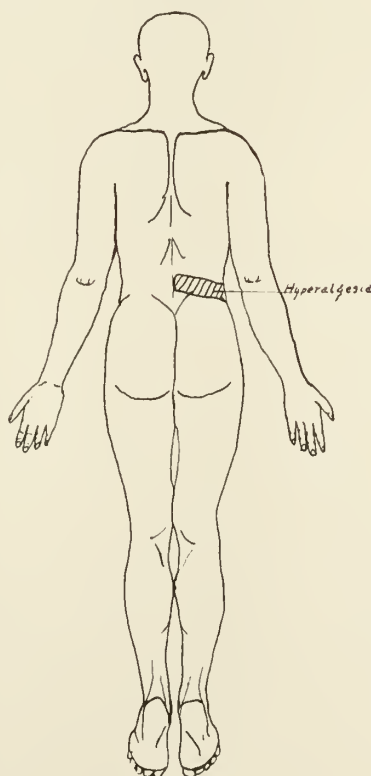
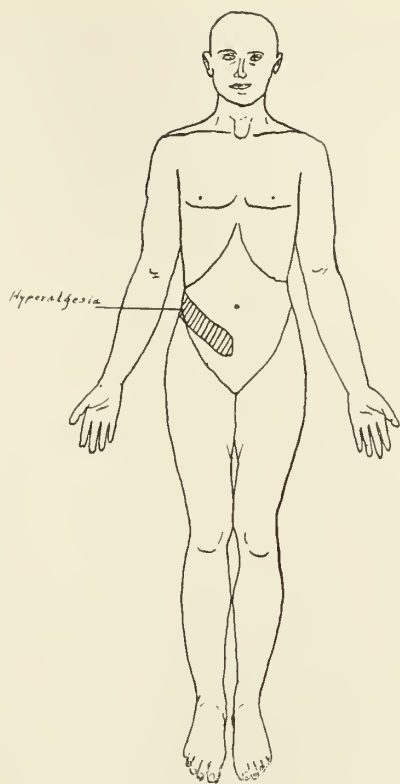
Table 1 also shows that fifteen of the forty-eight patients with a right ninth thoracic hyperalgesia had either cholecystographic or operative confirmation of gallbladder disease. One patient was operated on without the formality of roentgen ray examination and over one hundred gallstones were found in her gallbladder. Six of the remaining patients had negative roentgen ray findings or 13 per cent of the total number with cholecystograms. The majority of these patients had atypical histories or physical findings and one had mild acute cholecystitis with negative cholecystograms. One patient had an abnormal cholecystogram but was subject to allergic gastro-intestinal disturbances and operation was withheld, perhaps wisely, since she had been feeling well on the proper allergy management. As in many others recovering from gallbladder attacks, her hyperalgesia became increasingly more difficult to elicit as the inflammation subsided.

In all, this small series had roentgen ray confirmation error of 13 per cent. While this error is too large to justify operation on all patients with an otherwise unexplained right ninth thoracic hyperalgesia, the confirmed percentage of accuracy (87 per cent) is certainly of sufficient frequency to give it considerable weight as a diagnostic sign. It is certainly of sufficient importance to demand that cholecystograms be made. Inasmuch as the cholecystographic error in all cases of cholecyctic disease may be as high as 4 or 5 per cent, the relative percentage of accuracy in the hyperalgesia sign may possibly be somewhere in the neighborhood of 90 per cent.

There is a possibility that the negative value of this sign may be as great as its positive value. One allergic patient had suggestive gallbladder pain and tenderness. No segmental hyperalgesia was present and the cholecystograms were negative for visualization of the gallbladder. It was found at operation that there was a congenital absence of the gallbladder and common duct and that there were numerous hepatic ducts emptying directly into the duodenum. Another patient (not in this series) with a single gallbladder stone, which at times acted in a ball valve fashion, did not have the hyperalgesia sign at the time she was examined.

APPENDIX

The diagrams show the sort of areas obtained in these patients and they are considered typical of appendiceal radiation. This was shown in a patient who had suggestive symptoms of appendicitis but had a tenth thoracic hyperalgesia on the right. Operation revealed



a tough adhesion between the right ovary and the terminal ileum; the appendix was normal. Another patient had sensory findings of a gallbladder type, but consultants insisted on an appendectomy. At operation, the gallbladder appeared to be practically normal but within ten days the original symptoms recurred. A subsequent cholecystectomy relieved the patient.

Table 2 sets forth a brief resumé of the patients examined in the appendix group. No mention is made of patients who did not have the advantage of either roentgen ray or operative examinations as they could not be classified as proved cases.

A cursory glance at table 2 reveals several noteworthy points of interest. The majority of the patients had only suggestive histories of appendicitis, but all had an eleventh thoracic hyperalgesia on the right side of the abdomen. A majority had tenderness or tenderness and muscle guard in the right lower quadrant. All had either roentgen ray or operative confirmation of an abnormal appendix and ten with operative confirmation also had a previous roentgen ray diagnosis.

This series of appendix cases is too small to offer the percentage as an important index were it not for the finding that 100 per cent of the patients with right eleventh thoracic hyperalgesia on the abdomen, with either roentgen ray or operative confirmation or both, had appendicitis. This is a bold statement and cannot be allowed to stand for all cases. One

source of error must be always kept in mind, i.e., had one of these patients had neuritis or a neuralgic condition of the right eleventh intercostal nerve a mistake could easily have been made. It may also be possible for an undiagnosed pleural inflammation to cause errors, as it occasionally does. The writer has not had the opportunity of making such a differential diagnosis or error during this study. A ruptured appendix would hardly be expected to present this interesting sign since the tension has been relieved in such cases.

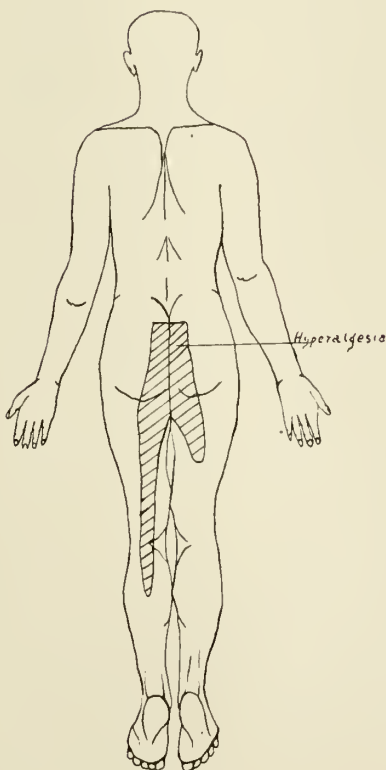
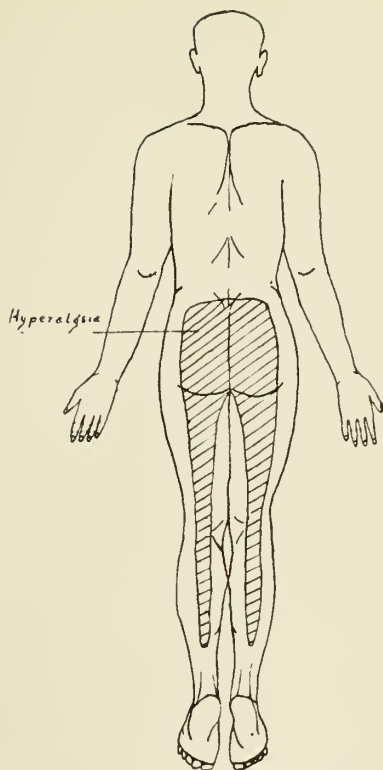
PROSTATE AND SEMINAL VESICLES

"This group of cases was selected to include only those patients who were normal neurologically or who had no bladder innervation disturbance. It is further deliberately limited by the fact that no routine sensory examination was made on all cases of prostatitis, but the majority of these cases was discovered to have a prostatovesiculitis because of the presence of the sacral hyperalgesia. This study of viscerosensory reflexes has consistently maintained the viewpoint of attempting to discover the causes for unusual hyperalgetic skin areas once they are formed rather than attempting to prove that all cases of visceral disease must have skin manifestations.

"This group consists of forty-eight patients varying in age from youth to senility. Forty cases had an equilateral sensory hyperalgesia and eight had asymmetrical distribution, with

Table 2. Appendix Group

Patient	History		Physical Examination		Roentgen Ray		Operative		11th Thoracic Hyperalgesia
	Suggestive	Typical	Suggestive	Typical	Abnormal	Normal	Pathological	Normal	
K. G.	x		x		x				x
B. R.		x		x	x		x		x
F. D.	x			x	x				x
G. L.	x			x	x		x		x
A. T.	x			x	x				x
P. S.	x			x	x				x
M. S.		x		x			x		x
M. D.	x		x		x		x		x
E. R.		x		x			x		x
D. C.		x		x			x		x
A. Z.	x			x	x		x		x
R. S.	x		x		x				x
M. F.		x		x			x		x
O. S.		x		x			x		x
A. M.	x		x		x		x		x
G. N.	x			x	x				x
E. M.	x			x	x				x
A. B.	x		x				x		x
M. B.	x		x		x				x
E. S.	x		x		x		x		x
W. V.	x		x		x				x
B. K.	x		x		x				x
E. M.	x			x	x				x
H. J.		x		x			x		x
M. B.	x		x				x		x
S. S.	x			x			x		x
J. K.	x			x	x				x
M. L.	x		x		x		x		x
W. C.	x			x	x		x		x
M. G.	x			x	x		x		x
M. W.	x			x	x				x
G. T.			x		x		x		x



a disagreement between the neurologist and the urologist in only two cases as to the side of greater involvement. The patients having asymmetrical hyperalgesia are especially interesting in that they tend to show to what extent these viscerosensory reflexes may be reliable."¹

Incidentally, these areas of hyperalgesia diminish in size as the prostatovesiculitis improves under treatment.

SUMMARY

A simple technic in ascertaining segmental types of hyperalgesia is reviewed for the localization of tension or irritation in visceral organs. When present, it seems to have a definite value in the consideration of certain abdominal and pelvic disorders and can be used with a reasonable degree of confidence along with other physical signs in making differential diagnoses.

420 University Club Building.

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ROENTGENOGRAPHIC APPEARANCE OF THORAX AFTER RIB RESECTION FOR PULMONARY ABSCESS

In the study of a series of twenty-three patients, on whom rib resection was done for drainage of pulmonary abscess, JOHN T. FARRELL, JR., Philadelphia (*Journal A. M. A.*), noted that the post-operative roentgenographic appearance of the chest is apparently determined principally by the number and portion of the ribs resected, the character of the pleural changes, and the postoperative course of the disease. Changes in the postoperative roentgenogram are structural and positional. Structural changes involve the skin, subcutaneous tissues, pleura and lungs and are influenced by the type of operation, the size and location of the abscess, the character of pleural complications and the postoperative course. Positional change is not the marked feature of abscess either before or after operation that it is of other pulmonary diseases. It affects the diaphragm more than the heart or trachea. Elevation of the diaphragm is seen in those cases associated with pleural edema or empyema. It is probably due to fixation of the lung by fibrosis developing at the site of the abscess while the lung is compressed by the pleural complications.

THE PREVENTION OF CONGENITAL SYPHILIS *

WINTON T. STACY, M.D.

ST. JOSEPH, MO.

Congenital syphilis, or syphilis in the second generation, is a contact infection transmitted to the child by the mother. It is not hereditary in the true sense of the word but broadly speaking it may be termed hereditary syphilis because it is passed on to the child by the parents. However, I wish to emphasize that the disease in the second generation is a contact infection transmitted to the child by the parent or parents. This transmission takes place while the mother is still carrying the baby and if we are to prevent congenital syphilis we must begin with the antenatal treatment of the mother, that is, the mother must be treated before the child is born.

Medical science offers a prevention and a cure for this disease but medical science alone cannot eradicate syphilis from the second generation because of the inability to contact every expectant mother. The prevention of this disease assumes the magnitude of a national problem, and indeed it is through the efforts of the governments that the European countries show such progress along this line. However, much can be accomplished by the cooperation of organized medical societies, public health workers and the public.

The prevention of syphilis in the second generation constitutes, (1) contact with every expectant mother early in pregnancy; (2) diagnosis and follow-up of case; (3) thorough and adequate treatment; (4) confinement or actual delivery preferably in a hospital where the cord and placenta may be examined for signs of syphilis; (5) postpartum check up of mother, and (6) follow-up of the child for a period of years.

Civilization and syphilization have advanced together¹¹ and it is estimated that 4 out of every 1000 population are constantly under treatment for syphilis in the United States.¹ There are half again as many male as female patients. Sixty per cent are treated by private physicians and 40 per cent by hospitals, clinics and state institutions.

In the area in the United States in which syphilis has been reported since 1920 there have been 35,000 more cases of syphilis than of scarlet fever, 79,000 more cases of syphilis than of all forms of tuberculosis and 500,000 more cases of syphilis than of diphtheria. There have been three times as many cases of

syphilis as of smallpox and five times as many cases of syphilis as of typhoid fever.² There were 195 new cases of syphilis in the venereal disease clinic of St. Joseph (Missouri) from September, 1930, to September, 1931. These cases had never been previously admitted to the clinic. One hundred twenty-three, or 63 per cent, were male patients, and 72, or 37 per cent, were female patients. Figuring on the basis of 40 per cent being treated by clinics, there would be about 480 new cases of syphilis in St. Joseph, of which 177 were females, from September, 1930, to September, 1931.

In syphilitic families the birth rate is only half as high as that of the general population,⁷ and some authorities say 20 per cent to 30 per cent of syphilitic families are sterile. If all syphilitic families were sterile we would no longer be confronted with congenital syphilis. The pregnant woman who is suffering from syphilis is the source of the infection in the second generation, and that there are expectant mothers who have this disease is shown in table 1.

Table 1

	Per Cent
Guy's Hospital, 5 year period ³	5 Positive Wassermann
Glasgow Royal Maternity Hospital ³	7 Positive Wassermann
Detroit Department of Health ⁴	10.5 Positive Wassermann
City of Baltimore (1928)	9.0 Positive Wassermann
W. B. P. C. St. Joseph (July, 1928-Aug., 1931)	8.4 Positive Wassermann
Gammeltoft of Copenhagen ¹²	5.5 Positive Wassermann

This gives an average of 5.6 per cent, or one woman out of every 18 who visited the prenatal clinic had syphilis.

The diagnosis of a disease is the most important service that the physician can render to his patient—if the physician cannot diagnose the disease he cannot supply the remedy.¹¹ Pregnancy apparently aids the syphilitic defense mechanism of the mother,¹⁵ and she conceals or forgets or may not know that she has syphilis. The most searching physical examination and the most carefully taken history fail to reveal any evidence of the infection in more than 50 per cent of those who have syphilis.^{6, 13} It is difficult to diagnose in the pregnant woman from a history or clinical evidence⁵ but the routine Wassermann or Kahn examination of all women coming to the private physician or the clinic for prenatal care will insure the diagnosis. The accurate Wassermann is diagnostic of syphilis.¹⁴ A negative test should be repeated on suspicious cases and if negative a second time should again be repeated after a provocative dose of some arsenical preparation has been given. There may be a fraction of a per cent of "false positives" but our modern technic has reduced this

* Read before the Missouri Section of the Social Hygiene Association, 1931.

number until it is almost negligible. Far less harm will be done by treating these "false positives" than by allowing a syphilis infected mother to go without treatment. In order to exterminate congenital syphilis the diagnosis of this disease must be made early in pregnancy.

A positive Wassermann in the mother does not always mean that the child will be syphilitic. Some workers state that the tendency to transmit syphilis to the offspring lessens with the age of the infection⁷ and the virus gradually becomes attenuated, but syphilitic children have been born as late as twenty years after the initial infection.¹² The danger of transmission of syphilis to the embryo or fetus is greater if the infection in the parent is acquired at the time of conception. The time of transmission is placed at the fourth month or after⁹ and it is a question whether infection of the fetus occurs prior to that time. However, the fetus can be infected at a later stage, even at parturition.

The exact method of transmission of the infection to the fetus is not definitely proved but it is probable that it occurs through the maternal fetal circulation.⁶ Schamberg and Wright contend that it may be of maternal, paternal or mixed origin.⁸ There are a few isolated cases reported that seem to prove the disease may be transmitted by the father but the consensus of opinion in such cases is that the mother had an occult or hidden syphilitic infection. However, it is well not to neglect the father who has the infection in attempting to prevent congenital syphilis.

Syphilis in the parents produces abortions, miscarriages, stillbirths and syphilitic children. Abortion, miscarriage or stillbirth may be classified as the fortunate termination of pregnancy in the woman who has syphilis. The syphilitic children are the unfortunate terminations, or the syphilitic tragedies, and constitute our group of cases of congenital syphilis. Abortions and miscarriages are about four times as frequent in the untreated as in the treated cases. Only 50 per cent or more of the untreated are delivered of living children, many of whom die within the first year of life. In a group of untreated cases studied by McCord, 30 per cent of the babies were born alive and 70 per cent were stillborn; 99 per cent were premature.¹⁷ Another author reports 68 per cent of conceptions interrupted by abortion, miscarriage or stillbirth. In a group of 65 women, average age 27, there were 256 pregnancies with only 114 living children, an average of 4 pregnancies each with less than 2 children apiece.¹⁰ The per cent of normal children decreases as the treatment of the mother is delayed.¹⁶

Treatment of the infected mother if begun not later than the fifth month and continued throughout pregnancy will give an 85 per cent to 95 per cent chance for a healthy baby. However, no state of pregnancy is too late to start treatments; something is accomplished even as late as the 9th month.^{5, 6} No harm can be done by treating a "false positive." Early treatment—prior to 5th month—may prevent the infection of the fetus; late treatment of the mother may mean early treatment of an already infected fetus.⁶ Eighteen infected women with a total of 50 pregnancies were childless before treatment. In this same group after treatment there were 15 living children from 17 pregnancies.¹⁰

Tables 2, 3, and 4 demonstrate what can be accomplished by the treatment of the mother.

Table 2. *After McCord. All Figures in Percentage*

Total of	(137) Not Any	Treatments (94)	
		Less Than 6	More Than 6
Pregnancies ending disastrously	80	34	9
Babies			
Born alive	30	80	93
Born dead	70	20	5
Pregnancies			
Full term	35	69	93
Premature	66	31	6
Positive			
Roentgen ray	70	38	3
Cord Wassermann	44	18	6
Placenta	69	31	2

Table 3. *After C. H. Marshall. Results of Pregnancies in Both Treated and Untreated Patients*

	Untreated		Treated	
	Num-ber	Per-Cent	Num-ber	Per-Cent
Number of patients	60		203	
Abortions and miscarriages	14	23.3	12	5.9
Stillbirths	15	25.	17	8.4
Living Children, premature and full term, syphilitic and non-syphilitic	31	51.7	174	85.7
Apparently normal children	13	21.7	132	65.
Syphilitic children, living and dead	18	30.	42	20.7

Table 4. *After C. H. Marshall. Total Syphilitic Fetuses, Syphilitic Infants and Apparently Normal Children*

	Untreated		Treated	
	Num-ber	Per-Cent	Num-ber	Per-Cent
Number of patients	60		203	
Abortions, miscarriages, stillbirths, syphilitic children	47	78.3	71	35.
Apparently non-syphilitic children	13	21.7	132	65.

The results in table 5 are taken from the records of the Welfare Board Prenatal Clinic, St. Joseph, Missouri. Complete records could be obtained on only 7 different patients representing a total of 24 pregnancies.

Table 5

	Untreated		Treated	
	Num-ber	Per-Cent	Num-ber	Per-Cent
Pregnancies	17		7	
Abortions, miscarriages, stillbirths	8	47	0	0
Babies dying early in infancy	5	29	0	0
Syphilitic children	4	23	1	14.2
Apparently nonsyphilitic children	0	0	6	85.8

The Wassermann on cord blood of babies born of syphilitic mothers is unsatisfactory and unreliable and need not be performed.⁶ A negative reaction means nothing. A positive reaction means syphilis.¹⁵ The blood Wassermann of infants is unreliable in the first month of life but after that it remains constant.⁷ The diagnosis of congenital syphilis is made on clinical findings, roentgen ray and placental findings.

Syphilis is not a contraindication to further pregnancies¹³ but the patient should have a complete treatment in each pregnancy regardless of the date of the initial infection or a previous intensive treatment or a negative Wassermann reaction.¹² A pregnant woman who has syphilis at some previous pregnancy should never be told that her blood test is negative, even though it may be, because that woman immediately loses interest and is of the opinion that she does not need treatment.

There is no standardized treatment for expectant mothers who have syphilitic infection. These women must be treated individually and not collectively. There are several approved methods of treatment and the dire effects caused by treatment are few in number. Joseph Lawrence¹⁰ defines a course of treatments as 8 doses of neoarsphenamine, 0.1 gm. per 30 pound body weight, and 15 intramuscular injections of 1 grain of mercury salicylate carried out simultaneously but given on different days. McCord¹⁷ gives an injection of 0.45 gm. of neoarsphenamine and an inunction or rub of one gram of blue ointment weekly until the baby is born. Treatment must be given early in pregnancy to produce the best results, but it is surprising what a small number of treatments given late in pregnancy will sometimes accomplish.

Unfortunately, many cases of syphilis in the mother are recognized after delivery, not before, by the development of syphilis in the infant.¹¹ Congenital syphilis will not be prevented until the patients who are cared for by their private physicians receive the same searching physical examination, including the routine blood test, as the clinic patients. There are no objections to a routine Wassermann in private practice.

The physician or the clinic must have early contact, preferably before the fourth month, with the expectant mother if any accomplishment toward eradicating congenital syphilis is made. The physician should be well trained in prenatal care, have just fear of the spirochete and an appreciation of consultation.

The "human equation" enters into each step taken towards the prevention of congenital syphilis and in caring for a pregnant woman,

especially one who is receiving antisyphilitic treatment, we must be intensely human and sympathetic. One must be tactful and sincere. A certain degree of firmness is necessary to cause these patients to follow directions.

The prenatal clinic should be connected with or located conveniently to the venereal disease clinic. It is much better to have a separate venereal disease clinic or separate days at the same clinic for the treatment of prenatal syphilis.

The diagnosis of syphilis in the pregnant woman should be made by the first physician who sees her or on her first visit to the prenatal clinic. A blood test should be made on the husband of the woman who has a positive Wassermann. Treatment should be started on the mother or the father or on both as soon as a positive diagnosis is made. If the physician does not treat such cases he should refer the woman to a syphilographer; the prenatal clinic should send her to the venereal disease clinic.

The treatments should be paid for by the patient if the family has sufficient financial means. If not, the drugs should be supplied by the state and the physician should be paid a fee for his services. The state should supply all drugs used in the free clinics. There should be laws compelling patients to take treatment when other measures have failed and to establish a state of quarantine for irresponsible patients.

Educating the personnel of public health workers in all phases of prenatal and venereal disease work is necessary. The patient must be made to understand the importance of the treatments and what they may accomplish.

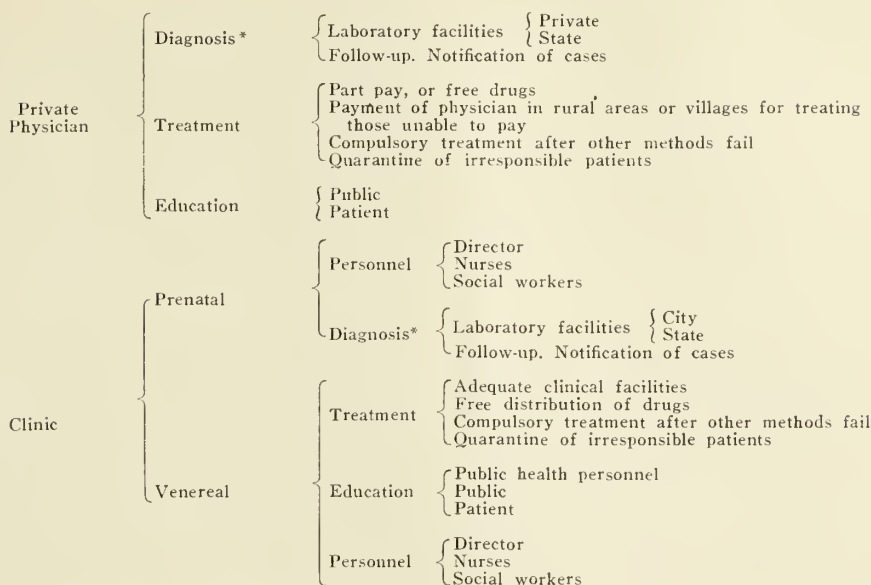
Social service workers should be available to the physician as well as to the clinic. The social service is a very important part of the program for without its aid we are helpless in combating this disease.

Chart 1 illustrates in a graphic way what constitutes an ideal social hygiene program for preventing congenital syphilis.

The prevention of congenital syphilis is not a question of morals; it is a problem in public health and education of the public. Medical science offers a preventive for this disease, "but unfortunately the attitude toward medical science involves not merely a lack of enthusiasm and indifference to the benefits conferred but is too often one of active opposition."

What has already been accomplished toward preventing syphilis in the second generation is small in comparison with the future possibilities, but these possibilities will not be realized until the public is taught to think logically in matters of public health.

We will be unable to prevent congenital

Chart 1. *Ideal Social Hygiene Program for Prevention of Congenital Syphilis*

* The husbands of all women with a positive diagnosis should be examined and if found to have syphilis should be treated.

syphilis as long as people believe the mad stone will cure rabies; that asafetida will prevent whooping cough; that a copper bracelet will prevent rheumatism; that a pain in the back means kidney trouble; that you can eat and grow thin or "bathe away" surplus flesh; that advertising quack doctors and health centers can cure all diseases, and the many other false beliefs that are so firmly embedded in the public mind today.

In order to prevent congenital syphilis, it is necessary for the medical profession and those individuals who are interested in public health work to attempt the colossal task of educating the public to know that every expectant mother should report to her physician or the clinic early in pregnancy; that she should have a thorough physical examination, including the blood test for syphilis, and if any evidence of syphilitic infection be found she should have adequate treatment—because it is by the early and adequate treatment of every expectant mother who is herself infected with syphilis that we are able to prevent this disease in the second generation.

620 Francis St.

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DUCTLESS GLANDS AS THEY APPERTAIN TO EYE DISEASES AND TO SURGERY

As conclusions to his article, A. D. RUEDEMANN, Cleveland (*Journal A. M. A.*), enumerates the following noteworthy facts: 1. Frequently it is found that patients who are examined for glasses have a muscle imbalance which may be due to hypothyroidism or other glandular dysfunction. 2. Hyperthyroidism produces definite eye changes, which in most cases are benefited by surgery; namely, wide fissures, ulcers and exophthalmos. Associated muscle changes are little benefited by any treatment, medical or surgical. 3. In parathyroid tetany, lens changes are sometimes present, probably the result of a combination of spasm with a deficiency of calcium and phosphorus. 4. Dysfunction of the pituitary gland is a causative factor in certain retinal disturbances and is an associated factor in other eye changes probably of polyglandular origin. 5. The recent work of Dr. Crile also brings out a group of cases in which suprarenal dysfunction is associated with eye changes.

TREATMENT OF DUODENAL, HIGH INTESTINAL AND PANCREATIC FISTULAS*

CARYL POTTER, M.D.,
ST. JOSEPH, MO.

One of the most baffling and devastating conditions that occurs in gastro-intestinal surgery is a duodenal fistula—baffling from the standpoint of anatomy and devastating from that of the physiology of the canal at this particular point.

Cameron¹ reported twenty-nine cases compiled from the literature, but this probably represents only a small fraction of the actual number of occurrences. He gives the causes as (1) proteolytic action of the discharge from trypsin, a most powerful enzyme; (2) infection; (3) intraduodenal pressure and (4) diminished resistance. With a small opening there may be spontaneous healing but this does not usually occur. The patient may die in two or three days, death usually being due to exhaustion, emaciation and peritonitis caused by the discharge of everything through the fistula which enters the duodenum from various sources, and the powerful digestive action of the pancreatic juice. Mayo² reported three cases, all ending fatally. Cameron¹ reviews the literature in twenty-eight cases in which the mortality was 43 per cent. Pannett³ in 1914 asserted that these fistulas never heal without surgical aid and if left invariably prove fatal.

The author's specific treatment of duodenal fistula based on the use of 1/10 normal hydrochloric acid to acidulate and inactivate the trypsin of the pancreatic juice, which digests protein only in an alkaline medium, and the use of beef juice or peptone as a substitute for the body protein of the abdominal wall to render harmless any excess or overflow of pancreatic juice first appeared in 1927.⁴

The universal favorable reception of this method was followed in 1929 by a corollary paper describing further observations on the treatment of duodenal and fecal fistulas.⁵ Since then this work has received almost universal confirmation in this country and abroad in papers^{6, 7, 8} and personal communications reporting specific cases treated and cured by this method. These collected cases will be reported in a later paper.

The reaction of the small intestinal content is alkaline. It contains a residue of gastric digestion, bile and pancreatic juice. The pancreatic juice escaping through an uncorked

hole in the duodenum or intestinal canal is a most vicious protein digestant. It literally eats up the abdominal wall. This digestion or erosion is caused by the proteolytic action of trypsin, the powerful enzyme in the pancreatic juice working in an alkaline medium.

Bile digests fats and is a peritoneal irritant but extremely mild when compared to trypsin and, although in obese patients it causes some fat erosion that can be practically disregarded in most patients from the standpoint of treatment. If it appears to play a part in the erosion and continuation of the fistula a foreign fat can be used as a substitute for the fat of the abdominal wall just as a foreign protein can be used to inactivate the excess of pancreatic juice. In one case of biliary fistula olive oil served the purpose very well.

Bacterial flora are practically absent or innocuous high up in the normal gastro-intestinal canal. Cushing has shown that the normal stomach can be freed from bacteria if sterile food is fed for 24 hours.

In duodenal ulcer, however, bacteria are present and in perforated ulcer they leak into the peritoneal cavity and both chemical and infectious peritonitis often result. The higher the fistula the more liquid the discharge and the more abundant the pancreatic juice. The more nearly the fistula approaches the ileocecal valve in the small intestine the more solid is the content and the less virulent the action of the pancreatic juice. Hence, the nearer it is to the anus the more apt it is to heal spontaneously and the higher the fistula the more eroding and virulent.

In a typical duodenal or high intestinal fistula the discharge is abundant and alkaline, the crater shows a deep excavation leading down to the opening which rapidly increases in size and in proportion to its size the pancreatic juice pours out of it. Wherever the pancreatic juice is allowed the least contact with the skin it becomes chafed and irritated, then the epithelium becomes eaten away and the digestion of the subcutaneous tissues, fascia and muscle rapidly progresses. The greater the fluid content of the discharge the more irritating it becomes because of the increase of trypsin. The whole incision becomes rapidly involved. In my first case of duodenal fistula a lower loop of intestine had protruded through the lower area of the eroded incision. This had to be replaced in the abdominal cavity and an intestinal fistula had formed in the replaced loop before the treatment had been well started. The method healed both fistulas and the abdominal wall but a ventral hernia formed subsequently at the lower end of the incision.

* Read before the Jackson County Medical Society, Kansas City, Mo., Nov. 17, 1931.

The specificity of the local treatment consists in the use of 1/10 normal hydrochloric acid to acidulate or neutralize and hence inactivate the pancreatic juice. The amount of pancreatic juice discharged is variable and depends very much on the general condition of the patient, the size of the fistula and the activity of the pancreas. The inflow of hydrochloric acid, although regulated as nearly as possible to neutralize the alkaline pancreatic juice, is at times insufficient and at other times more than sufficient to inactivate the secretion so there are periods when an inactivated overflow is present. This excess is taken care of by using a thick beef or peptone preparation to bathe the wound continually and allow the trypsin to digest the foreign protein rather than the abdominal wall.

Acetic acid has been tried and is efficient but it causes more discomfort and irritation. Other mineral acids such as a weak hydrobromic or hydriodic have been suggested but not tried by me up to the present. The 1/10 normal hydrochloric acid has also a marked antiseptic effect in healing foul infected tissue and we have found it very beneficial in treating these as well as other foul, infected, sloughing wounds. In obese patients olive oil may be added to the beef preparation if there is marked digestion of the fat from the outflow of bile.

By inserting a duodenal tube with a button attached to the end one can determine the exact location of the metallic button by roentgen ray and introduce 1/10 normal hydrochloric acid and beef juice into the duodenum or intestine at the site of the fistula and attack it from within as well as without and thus augment the healing time very materially.

Previous to this treatment advocated by the author and confirmed by work done elsewhere and published in several papers and by case reports received by the author from all over the world, many methods of combating this dreadful condition had been offered but all had been feeble in their effects.

Mayo² obtained one cure through closure. Gastro-enterostomy, gastro-enterostomy plus pyloric occlusion and jejunostomy have been the surgical procedures advocated, but the appalling mortality and unsatisfactory results prove the inadequacy of surgery. The most logical method previously advocated was the continuous suction method advocated by Cameron.¹ This is based on the assumption that by using a small tube in the fistulous tract attached to a continuous suction apparatus, the destructive intestinal juices could be sucked into the receptacle, none being allowed to come

in contact with the tissues of the abdominal wall. Theoretically, this seems fair but practically it is difficult and unwieldy, even when it works. The ordinary water suction pump does not produce enough suction. Connections leak. Few hospital beds are close enough to the water supply for practical use. Water must be running continually and the faucet cannot be used for any other purpose. The tube and abdominal wall need continual watching by a person who must be always on the job. If an electric suction apparatus is used there are usually not enough in a hospital for one to be spared for this purpose alone. When the receiver fills it must be emptied. All these factors allow for spills. Taking everything into consideration, there are frequent periods when the wound is puddled in the destructive juices and the process of abdominal wall digestion goes merrily on.

After due consideration of the anatomy of the duodenum and the pathology of the ulcer-bearing area, I found that suture closure was impossible.

Many think duodenal, high intestinal and pancreatic fistulas are rare but they are not. Many are not reported because of former hopelessness and fatality. They are much more common recently and cannot be considered a rarity. They occur (1) following an injury and introduction of a drain, (2) after operations on the stomach or duodenum in which sutures have been poorly placed and give way or the suture line has become infected and leaks, (3) when the duodenal mucosa has been accidentally punctured or sloughs after a Rammstedt's operation for congenital pyloric stenosis, (4) after jejunostomies and enterostomies, operations which are increasing in frequency, (5) from injuries to the duodenum after nephrectomies and surgery of the gall-bladder and ducts, (6) following operations for tuberculous peritonitis, (7) rarely from a duodenal diverticulum, (8) injuries to or removal of tumors of the pancreas and (9) a large percentage after operations for perforated duodenal ulcer. The size of the ulcer, the size of the perforation, the amount of scar tissue in the wall of the ulcer and the secondary edema and infection in the wall of the duodenum surrounding the ulcer are the factors that determine the formation and persistence of the fistula. A large ulcer, with a large perforation, is difficult to close without encroachment on the lumen of the duodenum. An extensive amount of hard, brittle, friable scar tissue makes the safety of introduced sutures very doubtful, and the devitalized intestinal wall around an acute perforation makes it poor soil

for the permanence of suture material. The wonder, then, is not that duodenal fistulas occur in rare instances but that they do not occur more often.

The part of the duodenum in which these fistulas practically always form is the first portion, because it is at this site that ulcers are present and operations performed.

The duodenum is the most difficult of any portion of the small intestine for surgical procedures because of its close proximity to other important structures and its fixation. It does not have a mesentery, it is more or less fixed and the posterior wall is uncovered by peritoneum. Mobilization is difficult but can be accomplished. From the standpoint of location, anatomy and pathology, the closure of a perforated ulcer or a fistula is more difficult than if it could be accomplished in a portion of the intestine having a mesentery. The pancreas is often subject to traumatic rupture and is so situated that it can hardly be repaired. A pancreatic fistula following removal of a pancreatic tumor can practically always be anticipated.

The small intestine fluid is alkaline in reaction and contains the residue of the products of gastric digestion, bile and pancreatic juice. Bacterial flora are less virulent the higher one goes in the normal intestinal canal, but is present. Assuming that an ulcer is of infectious origin, the infectious organism causing acute or chronic ulcers can usually be accepted as being present in the discharge from perforating ulcers. Bile digests the fats in the food, and one has only to deal with a fatality following the flow of bile from a leaking cystic duct after cholecystectomy without drainage to realize that it not only digests fats but acts as a definite peritoneal irritant. The pancreatic juice flowing from an uncorked hole in the duodenum is a most vicious protein digestant and one of the most tissue-irritating body fluids known. Unless one has observed and dealt with its destructive characteristics one does not have any realization of its devastating influence on the tissues of the abdominal wall. It literally eats them up.

The pancreatic juice and bile, therefore, act in an alkaline medium for the physiologic digestion of fats and proteins when corralled in the intestinal tract; when unloosed from their normal habitation they are not only intensely irritating but most potent digestants of body tissues.

In the toxemia incident to duodenal fistula, increasing alkalosis, characterized by decreasing concentration of blood chlorides and progressive rise of blood urea, occurs. The tox-

emia results in its major part from a loss of the action of the chlorides of the digestive juices, which are discharged through the fistula, and this loss turns the tide of the neutrality of the blood toward alkalinity; i. e., the excessive discharge from the fistula increases the volume of chlorides discharged and further depletes the body chlorides and increases alkalosis. Any toxic state is accompanied by increased blood urea, the result, in some cases, of the production of nephritis which prevents the elimination of urea and may infrequently be due to an abnormal amount of urea formed from the breaking down of body tissues. Toxemia, the result of an obstruction of the biliary, the urinary or the intestinal tract, naturally elevates the blood urea. Haden and Orr⁹ have proved this to be the case in intestinal obstruction, but it is just as evident in duodenal and fecal fistulas. Therefore, the chemical status of the blood in intestinal obstructions and duodenal or high fecal fistulas is practically the same. Duke thinks that histamine, a highly toxic putrefactive derivative of protein digestion, may play a part in the extreme toxemia of intestinal obstructions and in disturbances of digestion incident to these fistulas.

In duodenal, intestinal and pancreatic fistulas, the loss of body fluids and starvation are just as important factors as in intestinal obstructions. The treatment of the toxemia, therefore, must not be confined solely to the replenishing of the depleted chlorides, but fluids and dextrose must be abundantly furnished as long as the excessive loss, toxemia and starvation continue. Whether the associated disturbance of the mobility of the bowel is important is conjectural.

It may be that the balance of production is so disturbed by the continual discharge of pancreatic juice through the fistula that the pancreas is stimulated to an overproduction, with consequent increased loss of body fluids and extreme depletion of blood chlorides, with resulting alkalosis, toxemia and starvation.

Realizing the importance of the upkeep of body chlorides, fluids and nutrition in all cases of high intestinal toxemia, I force salt solution and give large amounts of dextrose, based on Haden and Orr's⁹ experience and the realization of the body needs for fluids, chlorides and dextrose.

That the irritation is mainly due to pancreatic juice is again demonstrated by referring to the well known observations that gastric fistulas show very little irritation of the abdominal wall, and that biliary fistulas, with rare exceptions, heal spontaneously. In doing

a jejunostomy the Wetzel method, or some modification of it, with its valve-like control of the backflow of pancreatic juice, is to be preferred to a simple jejunostomy with a purse string suture, because some of the most irritating jejunal fistulas follow the latter procedure. The severity of fistulas following the purse string method was illustrated by a report sent to me from Dr. Hoag of Fort Smith, Ark., and by another patient operated on elsewhere who later came to me. In fact, from personal observations of different types of enterostomy in the small intestine it would seem that all enterostomies performed by some valve type of operations, such as the Wetzel, show less abdominal wall digestion and irritation than those in which there is a direct discharge through the abdominal wall. Post-operative small intestine fecal fistulas are notoriously persistent and irritating and many of them do not heal spontaneously.

In a case in which I had been called in consultation, a high enterostomy had been performed on a child in extremis because of a too long-standing acute intestinal obstruction from adhesions which occurred two years after an operation for perforated appendicitis. It was reported that a single purse string suture was pulled tight around the tube introduced into the intestine. The resulting fistula was most destructive. The reaction was alkaline and liquid fecal matter containing a large amount of pancreatic juice had caused the characteristic toxemia and digestion of the abdominal wall, including a wide area of skin irritation beyond the crater of the fistula. The wound was being treated by a concentrated solution of sodium bicarbonate and by sodium bicarbonate powder. Not only had the wound shown no improvement but it had become very much worse. In this concentrated alkaline medium the erosion from the pancreatic juice seemed accentuated. The wound rapidly healed under treatment with normal hydrochloric acid and beef juice. Dilute acetic acid was first used but the healing was faster when the hydrochloric acid was substituted.

The method first described dealt only with duodenal fistulas, but after observing the results of the same treatment in fecal fistulas of both the small and the large intestine it is my opinion that the treatment is curative in the large majority of fecal fistulas. It is also most effective in overcoming the chafing of the skin around the anus in acute and chronic diarrhea, especially in infants. I agree with Duke that this chafing of the skin around the rectum is due to the digestive, eroding action of the pancreatic juice. Fast⁷ treated a severe case of

pancreatic fistula successfully by the same method. Medical treatment will practically supplant surgery in the treatment of fecal fistulas in the majority of cases.

The time required for cure is affected by: (1) the proximity of the fistulous site to the pyloric sphincter; (2) the volume of the pancreatic juice in the intestinal content; (3) the resistance of the patient; (4) infection; (5) intra-intestinal pressure and (6) the persistence and thoroughness of the treatment.

Intestinal fistulas are less persistent and less resistant to treatment in proportion to their distance from the duodenum because of the dilution of the pancreatic juice by its mixture with other intestinal secretions and the products of intestinal digestion lower down. Under normal conditions the fecal content is more solid the more nearly it approaches the rectum. A diarrhea per se or induced by a purgative increases the volume of pancreatic juice and liquefaction of fecal content and consequently the irritation and digestion of the abdominal wall. It is, therefore, wise to attempt bringing about constipation in the patient by placing him on a boiled milk diet. Boiled milk, in addition to its constipating effect, supplies intra-intestinal protein for the digestive action of pancreatic juice and so tends to cut down the excess. From 4 to 6 ounces (120 to 175 c.c.) of boiled skimmed milk are given every four hours. The oral administration of from 1/10 to 1/5 grain (7 to 11 mg.) of powdered opium every two or three hours tends to decrease peristalsis and lower intestinal pressure. If secondary anemia occurs, blood transfusions and intravenous injections of iron are given. Ordinary methods to combat local infections are used. The toxemia, starvation and alkalosis are overcome by hypodermoclysis and the intravenous administration of hypertonic salt solution and dextrose, with indicated amounts of insulin when large amounts of dextrose are used. The use of much glucose should be checked by blood sugar determinations.

The keynote of the treatment is the local application of tenth-normal hydrochloric acid and sterile beef juice. The former is used to overcome alkalinity of the intestinal content, as pancreatic juice becomes inactivated in an acid medium. The latter supplies a foreign protein with which the pancreatic juice first comes in contact and digests it instead of digesting the abdominal wall.

SUMMARY

The beef juice and hydrochloric acid treatment applies more particularly to fistulas of the duodenum, pancreas and small intestine

than those of the large intestine on account of the large ratio of pancreatic juice in the small bowel. Fistulas of the large intestine in an otherwise normal bowel usually heal spontaneously, unless there is a large defect in the bowel wall and mucous membrane, such as is present when a large area of the wall of the large intestine has sloughed out or been removed in surgical colostomies. If, however, there is skin irritation during the process of healing it is direct evidence that an excess of pancreatic juice is present and the beef juice and hydrochloric acid will eliminate the erosions of the skin and abdominal wall caused by it.

Persistent fecal fistulas in which irritation or digestion of the abdominal wall by pancreatic juice is not the causative factor will, of course, have to be closed by surgery. But the persistence of most fecal fistulas is due to irritation from pancreatic juice in a semisolid or liquid fecal content. In the large intestine the action of the pancreatic juice is attenuated and the fecal content is more solid.

When continuous suction is used to treat duodenal, high intestinal or pancreatic fistulas, the healing would be much more rapid if the suction tip in the crater of the fistula were surrounded by strips of gauze soaked in beef juice and tenth-normal hydrochloric acid. This would take care of any overflow or puddling that might occur and I am sure would increase the rapidity of healing and the efficiency of the suction method. When the crater becomes so small that it will be difficult to hold the suction tip in place, the beef juice and hydrochloric acid will complete the closure.

It has not been necessary for me to use suction in any case, but I can see no reason why the suction would not be efficacious in taking care of a large amount of the drainage and thereby lessen the number of dressings. The beef juice and acid treatment, however, is simple, safe and sure and is available to any one, whether he has or has not access to the equipment necessary for establishing continuous suction.

The technic used by the author at present in treating cases in the hospital follows: Bovinin is placed in one receptacle. A pinchcock is applied to a piece of rubber tubing which is connected by a T arm to two Dakin tubes or two 16 to 20 French catheters, the sides of which contain multiple perforations and the ends ligated similar to the Dakin tubes. These are embedded in and coiled around strips of gauze loosely packed around and in the crater of the fistula. By loosening the pinchcock the gauze is continually soaked in the beef or protein preparation. Another receptacle contain-

ing 1/10 normal hydrochloric acid is connected with a Murphy drip glass connection which in turn is connected with a No. 14 French catheter. The tip of this catheter is inserted into the fistula or at the opening, depending on whether or not it is of sufficient size to take it. The hydrochloric acid is allowed to drip into the opening at the rate of 20 to 60 drops per minute.

In conclusion, it may be stated that since the publication of the first paper by the author there have been many attempts to modify the technic with little deviation from the author's original description. The addition by the author of the duodenal tube into the intestine through the mouth seems to be a distinct advantage and very much lessens the time for recovery. It adds more detail, however, and may be easily omitted. My idea has been to simplify the details so that the method may be universally used because patients faced with a long hospital course and great expense can be treated at home either by the family physician or under his direction after the acute toxemia and debilitation have disappeared. This treatment consisted of puddling the crater of the wound in gauze soaked in bovinin and feeding 1/10 normal hydrochloric acid to the fistula by a medicine dropper.

731 Faraon Street.

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EXERCISE BOARD HELPS PATIENT WITH PARALYSIS

Necessity may truly be called the mother of invention for not long ago a patient recovering from paralysis needed exercise to coordinate the muscles of his hands and arms. An exercise board was devised. It consists of a plain board 30 inches long and 7 inches wide with a shelf 36 inches long. It is fastened to a bed or a table with iron clamps or wooden hand screws. Articles for exercise, such as screen door spring, bird's cage spring, sash lock, cupboard latch, barrel bolt, drawer pull, snap switch are attached. These may be obtained at any hardware store, an article in *Hygeia* explains.

RELIEF OF INTRACTABLE PAIN BY NERVE BLOCK AND SECTION

WALTER D. ABBOTT, M.D.

DES MOINES, IOWA

No longer is it necessary to administer large doses of morphine to allay intractable pain because now it is possible to block the sensory nerves to almost any area of the body. Although this procedure deprives a given region of sensation, it is preferable to the intense suffering produced by neuralgias and the persistent pain in certain types of malignancy, diabetes, arthritis and syphilis.

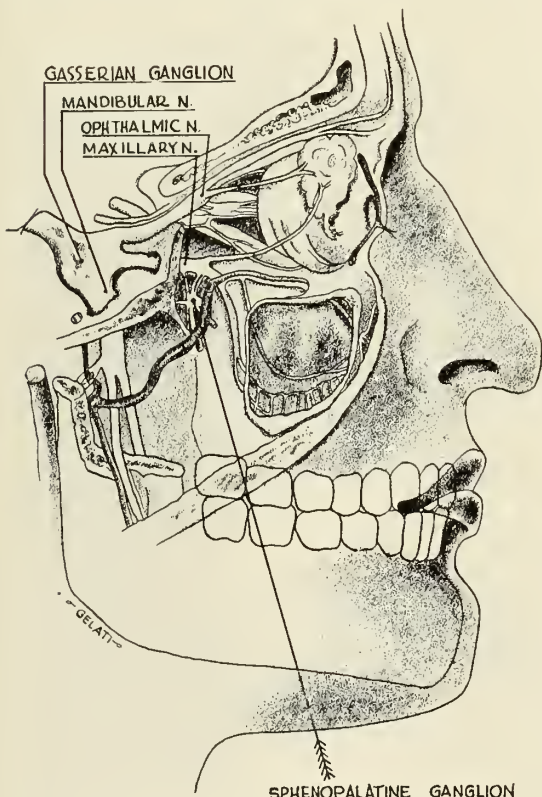


Fig. 1. Position of the fifth nerve with the interior relation and communication of the sphenopalatine ganglion.

Since Schlosser's original work, many painful conditions have been alleviated by nerve block and section. It is the purpose of this paper to present the anatomical and surgical principles involved in this type of treatment.

Pain in Head and Neck.—The indescribable pain of trigeminal neuralgia has been successfully dealt with by alcohol injection and section of the postganglionic root. However, it has only been in the last few years that pain from carcinoma of the face, cheek and tongue has

been relieved. Fay³ and Grant⁵ prefer operative procedures on the nerves in these conditions but the risk of alcohol injection is less and the results are almost always as satisfactory.

Woodbridge¹⁵ and Harris⁶ have demonstrated the value of alcohol injection of the fifth nerve in these conditions. But when the nasal sinuses are involved with pain radiating to the auditory canal it is sometimes necessary to section the vagus nerve in addition. Ruskin⁹ has advised injection of the sphenopalatine ganglion when both the fifth and seventh nerves were involved. Figure 1 will show the

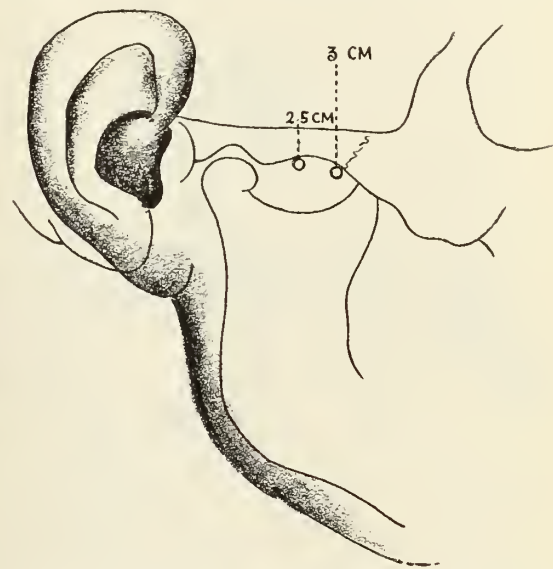


Fig. 2. Landmark for site of deep injection for the second and third branches of the fifth cranial nerve.

interrelation of the sphenopalatine ganglion with the fifth nerve and I have had two cases in which it was necessary to inject the sphenopalatine ganglion after satisfactory section of the fifth nerve.

Although there is some difference of opinion as to the advisability of superficial or deep alcoholic injection, I prefer the latter type. In locating the landmark for injection of the third branch of the fifth nerve, a point 2.5 cm. from the external auditory meatus should be palpated with the operator's finger (fig. 2). At this site, a small notch in the zygoma will be felt and pressure at this point will cause pain in the upper first molar tooth. The needle is inserted under the zygoma, up and back to a depth of 4 cm. and, at this point, the margin of the foramen ovale is felt (fig. 3). The needle is inserted a few millimeters further and the patient will complain of pain radiating down the mandible. A syringe is then attached to the needle and, if aspiration shows no bloody

N. B. Illustrations are adapted drawings from Labat's "Technic of Local Anesthesia" published by W. B. Saunders Co., Philadelphia, 1928.

fluid, 2 c.c. of 95 per cent alcohol are injected. It is my custom then to inject 2 c.c. of air before withdrawing the needle to prevent a dripping of alcohol and possible osteomyelitis.

The site of injection for the second branch of the fifth nerve is .5 cm. anterior to the point of injection for the third branch (fig. 2). Again a notch under the zygoma is felt and pressure causes pain in the upper bicuspid. The needle is inserted up and perpendicular to the anteroposterior axis of the skull to a depth of 5 cm., when the margin of the foramen rotundum is felt. On striking the nerve the patient complains of pain in the cheek and upper lip.

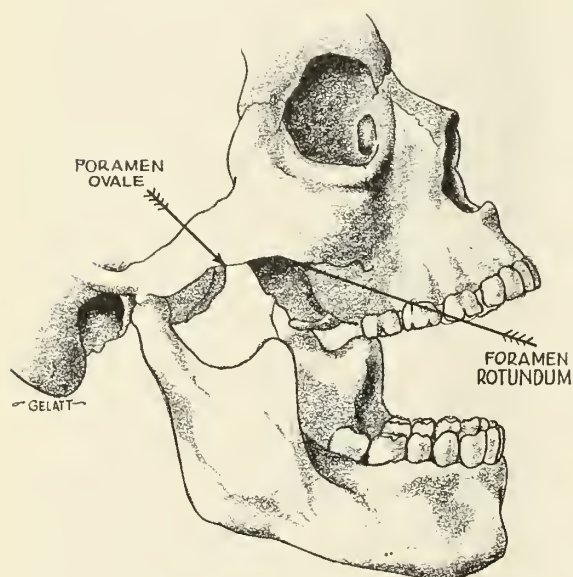


Fig. 3. Foramen ovale and foramen rotundum.

After aspirating, 2 c.c. of 95 per cent alcohol are injected followed by the injection of 2 c.c. of air. It is the custom of some operators to inject novocaine before the alcohol, but I feel that a preoperative dose of sodium amytal is preferable. In carcinoma of the mandible it is often necessary to block the cervical nerves as well.

The lateral approach is the most satisfactory except in cases where the landmarks have been destroyed and then the posterior route must be used. The needle should be inserted to the tip of the transverse processes of the second, third and fourth cervical vertebrae and here it is far safer to use 5 c.c. of 1 per cent novocaine before injecting the alcohol. If the desired area of analgesia is obtained, it is then safe to inject 5 c.c. of 95 per cent alcohol at each site (fig. 4), but care must be taken to aspirate because of the proximity of the vertebral vessels. Also, it is very easy to slip into the intervertebral foramen and puncture the subarachnoid space. Swetlow,¹² Fetterolf⁴ and Lukens⁷ report satis-

factory injection of the internal laryngeal nerve in dysphagia due to tuberculous laryngitis. However, only one side should be done at a time with a rest period of at least two days.

Pain in Chest (Angina Pectoris).—This clinical entity has provoked many means of treatment in an effort to relieve the pain. Various procedures have been suggested, from removal of the superior cervical sympathetic ganglion and section of the afferent cardiac nerve to removal of the stellate ganglion. Brunn² and Swetlow¹² have reported excellent results by paravertebral injection with alcohol and later White¹⁴ has written favorably of this

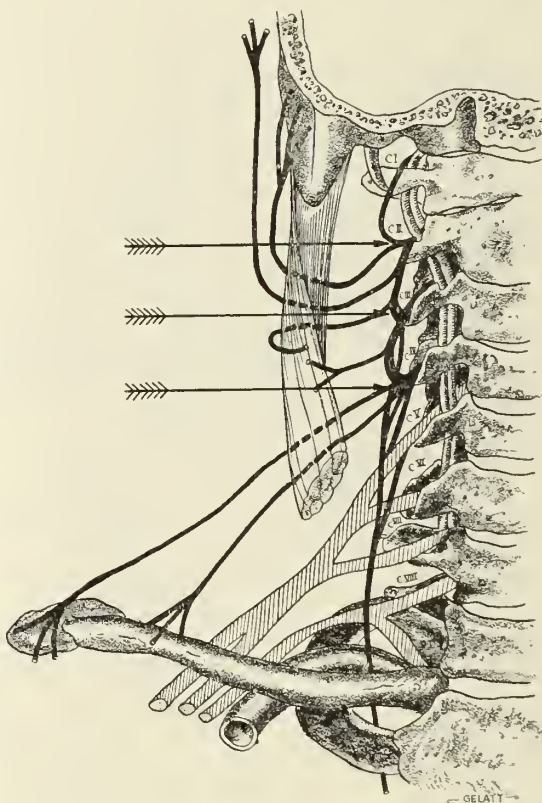


Fig. 4. Point of injection for cervical plexus block. Note proximity of vertebral vessels.

method. If the anginal pain is due to a vasospasm rather than to an obliterative process, I feel that an interruption of the sensory and sympathetic fibers is of extreme value. The safest and most satisfactory method is the injection of the first five thoracic nerves and sympathetic ganglia (fig. 5). Some authors prefer the previous injections of novocaine while others use alcohol with a light gas anesthesia. It has been my practice to use the former procedure and inject 5 c.c. of 1 per cent novocaine followed by 5 c.c. of 95 per cent alcohol. The patient is placed on the side opposite the one to be injected and the needle is

inserted 2 cm. lateral to the spinous process until the rib is struck by the needle. Then it is withdrawn enough to insert the needle down and forward at an angle of 45 degrees until the body of the vertebra is felt. After aspirating to be sure that no vessel has been punctured, the injection is made. Following the injection the patients usually complain of hyperesthesia but this is not severe. Horner's syndrome always follows this injection.

Pain in the Chest from Malignancy.—Pain from carcinoma of the breast or lung can usually be controlled by blocking the first five thoracic roots, although occasionally it is

to block painful sensations from any organ in the abdomen.

Pain in the Extremities.—Cordotomy is the procedure of choice in painful conditions of the lower extremities. However, only a unilateral cordotomy is of value in the upper extremities. In peripheral vascular disorders, such as Buerger's or Raynaud's, I have followed the technic of Stern¹¹ in injecting the posterior roots and attendant sympathetic ganglia in patients who were unable to undergo sympathetic ganglionectomy and rami-sectomy.

Causalgia from painful amputation stumps is best relieved by alcohol injection of the sympathetic ganglia. The relief of pain is instantaneous and because of the nervous instability of these patients I believe the injection is of less psychic trauma than an operation such as sympathectomy.

SUMMARY

It is nothing short of sheer cruelty to deprive suffering patients of relief when such simple methods are now at hand. No longer should a sufferer be steeped in morphine if the attending physician will avail himself of the opportunities to allay intractable pain without any appreciable risk to the patient.

820 Equitable Building.

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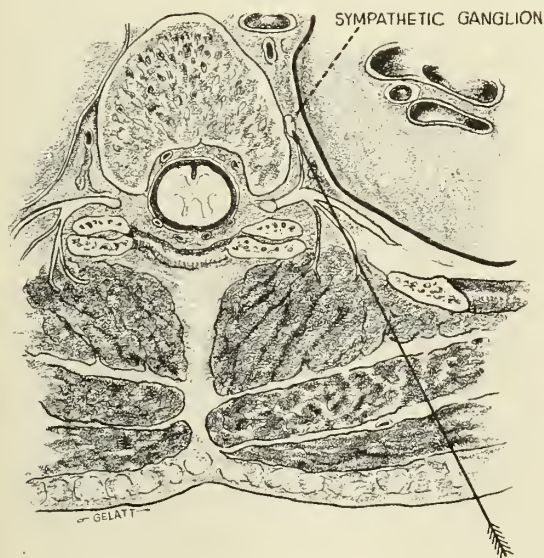


Fig. 5. Site of injection for sympathetic ganglion and sensory root.

necessary to inject lower. In a previous paper I have reported relief of pain by cordotomy but in high lesions of the chest this procedure is not always satisfactory. A unilateral cordotomy can be safely performed as high as the second cervical segment, but the eighth cervical is the upper limit for a bilateral section of the anterolateral tracts in the spinal cord. So it is sometimes necessary to resort to paravertebral alcohol block for intense pain in the chest. Further efforts directed toward thoracic sympathetic ganglionectomy, such as Mixter and White's⁸ work and White's¹⁴ may prove even more satisfactory.

Pain in the Abdomen.—The intense suffering from abdominal malignancy or gastric crisis can often be relieved even after cordotomy has failed. Recent investigations by Van Bogaert and Verbrugge¹³ and Mixter and White⁸ indicate conclusively that the sympathetic nerves carry some sensory fibers. An accurate knowledge of the segmental nerve distribution to the viscera will enable the operator

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AUGUST, 1932

EDITORIALS

NOTABLE SERVICE TO CRIPPLED CHILDREN

"He who contributes to such a service does good to the child, to society and to himself," President Walter Williams said in the foreword of the annual report of the Missouri State Service for Crippled Children, Columbia, for 1931. The foreword is humanitarian in character as is the work. If it were mercenary work the foreword might have called attention to the large rate of interest which the State will draw on its investment. Based on the statement of Dr. Louis I. Dublin in "The Money Value of Man," to-wit, that a child of 10 years represents a future earning to the State of \$14,950, the State would receive high interest on the \$130,442.98 released to date for this work for the service has aided 1975 children toward complete or partial restoration to a normal status since being established in July, 1927.

During the fiscal year, ending December, 1931, despite the lack of adequate financial support, 127 children were treated in the hospital, 252 were treated at the hospital as out-patients and 486 were treated or examined and parents advised in clinics throughout the State.

In 1931 there were 112 new admissions for treatment in the hospital, 116 operations performed, 309 casts furnished, 1569 physiotherapy treatments given, 632 roentgen ray examinations made, 63 dental treatments given and 27 braces and 113 pairs of special shoes furnished. More than two thousand visits were made on the 252 out-patients.

In 1928 the service cared for children from 33 counties of the State but the end of 1931 showed that children from 84 counties had been helped.

The service is quartered in the hospitals of the University of Missouri and all space which is not used in caring for students in the University is available for the work. The hospital contains adequate operating, hydrotherapy and

heliotherapy facilities and it is estimated that three or four times as many children could be cared for as have been cared for in the past if funds were adequate. A school is maintained for the children, the teachers being furnished by the School of Education of the University of Missouri.

In 1933 the Georgia Brown Blosser Home for Crippled Children, Marshall, will probably be available. The hospital-home was provided under the will of the late Mrs. Blosser and the faculty of medicine of the University is empowered to designate what class of patients should be treated in the home.

The personnel engaged in the service includes Dr. G. Kenneth Coonse, chief surgeon; Dr. Louis F. Howe, resident assistant in orthopedic service; Dr. R. S. Battersby, pediatrician, and Dean Edgar Allen, director of hospitals.

ETHICS FOR LIMB MANUFACTURERS

The medical profession is brought into close and frequent contact with a few business enterprises other than the drug industry. Until a few years ago, few if any business organizations had attempted to lay down rules of conduct for the guidance of their members in dealing with each other and with the public. In 1926, the American Retailers Association adopted a code of ethics as a part of their organic law to govern the conduct of the 4000 members of that organization. Among other things the retailers' code declared that "the foundation of business organizations is integrity." We applauded this forward step at the time.¹ Numerous business organizations had previously adopted standards to control the behavior of their members toward each other and toward the public.

To the list of business organizations that have adopted written codes is now added the Association of Limb Manufacturers of America. Early in 1932 the limb manufacturers submitted their code of ethics to us and requested that our Association approve the code if it were found satisfactory to us. The code was submitted to the Council at the Jefferson City Session this year and the Council gave its approval. The Council recommended that the House of Delegates approve this action of the Council which was done.

The Association of Limb Manufacturers was organized in 1917 at the urgent request of the Department of the United States Army and the Department of the United States Navy. Its purposes are wholly educational and ethical. One of its principal purposes is to elevate the industry to the plane of dignity and importance which it deserves and to prevent and

1. Editorial, this Journal, August, 1926, p. 305.

punish fraudulent and unbusinesslike conduct on the part of any one claiming to be a limb maker.

The code of ethics of the limb manufacturers follows:

Code of Ethics

Section 1. I will not make any untruthful statements about a competitor, a competitor's make of artificial limbs, his financial standing, the personality, morality or honesty of competitors or members of a competitor's firm, whether by word of mouth, writing or printing, or by commendatory letters or deceptive pictures, or by exhibiting or causing to be exhibited alleged samples of a competitor's manufacture.

Sec. 2. I will not accept an order for an artificial limb by agreeing to credit the payment of a deposit already made to another manufacturer or discount the amount of the deposit paid to another manufacturer from the price of a limb. I will not endeavor either directly or indirectly to cause a person who has already placed a bona fide order for an artificial limb with another manufacturer to cancel such order.

Sec. 3. I will not furnish or agree to furnish an artificial limb complete or incomplete, to anyone without a bona fide order.

Sec. 4. I will use every effort to furnish my customers satisfactory artificial limbs and will in all cases of dispute protect my customers' interests to the extent of using every honest endeavor to furnish a properly made artificial limb. Should there be any changes needed at time of trial of a new limb, I will make them, and should occasion demand, I will agree to make another fitting to the end that the customer shall be furnished an artificial limb that is properly constructed and correctly fitted.

Sec. 5. I will not, directly or indirectly, interfere with or entice an employee to leave the employ of any other member of this Association. I will use every honorable means to help a member of this Association to acquire and maintain the services of expert workmen.

Sec. 6. I will not use my membership in this association for the purpose of advertising or advancing my own business interests to the injury or detriment of any other member. I will not solicit orders for artificial limbs by making promises that are impossible of fulfillment.

In but few cases is the work of the physician or surgeon left to others to complete. The making and fitting of an artificial limb, however, must be delegated to the experts in this industry. It is therefore gratifying to know that the manufacturers of artificial limbs have voluntarily adopted rules of conduct that will go far toward protecting the wearer of the limb from fraudulent, dishonest and incompetent limb makers.

DIPHTHERIA DEATH RATE IN ST. LOUIS LOWEST ON RECORD

The total death rate for a city is to some extent dependent upon general conditions. There

are some diseases, however, that are not necessarily influenced by financial stress and straitened circumstances so it is gratifying to observe in the 1931 report of Dr. Max C. Starkloff, Health Commissioner, St. Louis, that the lowest number of deaths from diphtheria ever recorded in the city was reached in 1931 although there was a slight increase in the total number of deaths. The number of deaths from diphtheria was 4.5 for each 100,000 population. In 1920 the mark was 33 deaths.

The general death rate was 14.6 per 100,000 population as compared with 13.9 in 1930. The report states that 63 per cent of the increase was due to measles, whooping-cough, scarlet fever and tuberculosis. While an increased general death rate is lamentable, it is of some satisfaction to know that the increase was not caused by diseases which can be prevented through simple methods.

During 1931 a campaign had been conducted against diphtheria by the health departments and medical societies of St. Louis City and St. Louis County. Numerous methods were used in putting the information before the public that diphtheria was preventable.

There was a marked advance in mortality from tuberculosis, 878 deaths, or 105.9 per 100,000, the highest rate in seven years and an advance of 21 per cent over 1930. This is the greatest increase of any city in the country. Dr. H. I. Spector, tuberculosis controller, points out that the most obvious reason, the depression bringing undernourishment and overcrowding, while favoring the increase of tuberculosis will not explain the high death rate from this disease since a study of 44 other cities even more severely oppressed by financial difficulties offers no parallel. He says, rather, the spread of the disease is caused by shortage of nurses, shortage of clinics and staffs, increase in the more susceptible Negro population and, most important, by insufficient hospital facilities for isolation and treatment. These deficiencies force many sufferers to remain at home and at work, thereby infecting others and spreading the disease.

Dr. Starkloff points out that small increases in the general and infant death rates in any one year are not significant of any serious change in public health and that, in general, health conditions in St. Louis in 1931 were good.

The report shows what can be and has been accomplished with a preventable disease but it also evidences the need of more stringent efforts being directed toward a controllable disease.

NEWS NOTES

Approximately one fourth of the accidents injuring the eyes of children are caused by fireworks.

The annual roll call of the American Red Cross will be held from Armistice Day to Thanksgiving Day, November 11 to 24.

Evidence that prehistoric natives of British Columbia knew the surgical technic of trephining was found recently when a skull bearing marks of this operation was unearthed.

Dr. George Gellhorn, St. Louis, president of the American Gynecological Society, presided at the annual meeting of the organization which was held in Quebec from May 30 to June 1. He delivered the presidential address entitled "The Contributational Factor in Gynecology and Obstetrics." Dr. Otto H. Schwarz, St. Louis, is secretary of the association.

The Aid Association of the Philadelphia County (Pennsylvania) Medical Society is establishing a special perpetual fund in honor of the late Dr. John B. Deaver, the income from which will be used to afford aid to needy physicians and their families. All friends of Dr. Deaver are invited to participate in creating the fund. Dr. Francis Heed Adler, Secretary, 313 South Seventeenth Street, Philadelphia, is receiving contributions to the fund and checks should be made payable to the Aid Association of the Philadelphia County Medical Society.

There will be no epidemic of infantile paralysis in this country this year, according to Dr. Hugh S. Cumming, Surgeon General and Director, United States Public Health Service. In a recent issue of *The Parents' Magazine*, Dr. Cumming said: "Fortunately, assurance can be given in view of our previous experience with poliomyelitis that a widespread epidemic of this disease is practically out of the question in 1932. It was more prevalent in the United States in 1931 than in any year since the record-breaking epidemic of 1916 and one intense outbreak does not follow another within a year in the same community. It is to be remembered, however, that the disease occurs every year to some extent, and it is especially to be remembered that most muscles affected tend to recover entirely if they are kept from being stretched from the start, and later, after all tenderness has gone, if they receive carefully directed and graduated exercises with proper rest, still avoiding stretching."

It is estimated that the American public wastes \$15,000,000 a year on fraudulent "cures" for incurable diseases.

Dr. Elsworth S. Smith, St. Louis, made a lecture and clinic tour of Oklahoma under the auspices of the University of Oklahoma School of Medicine during the month of June.

Dr. John O'Connell, Overland, coroner of St. Louis County, entertained fifty members of the St. Louis County Medical Society and their families at his country home "The Iveland" on the afternoon of July 10.

The Central States Pediatric Society will be held in Kansas City October 7 and 8. The program will consist of short case presentations and studies. The session convenes during the week of the meeting of the Kansas City Southwest Clinical Society and some of the meetings will be joint sessions. Reduced railroad rates will be obtainable on the certificate plan for both meetings. Dr. Frank C. Neff, Kansas City, is president of the Central States Pediatric Society.

The sixty-first annual meeting of the American Public Health Association will be held in Washington, D. C., October 24 to 27 with headquarters at the Willard Hotel. The American Social Hygiene Association, American Association of School Physicians, International Society of Medical Health Officers, Conference of State Laboratory Directors, Conference of State Sanitary Engineers and the Association of Women in Public Health will hold their sessions in Washington at or about the same time.

The public health education section of the American Public Health Association will conduct an Institute October 22 and 23 in which short and intensive courses in the philosophy and principles of health education will be given and practical suggestions offered for organizing health education programs. The industrial hygiene section will have a special exhibit showing the hazards, problems and general progress in preventive medicine in industry. One session will be devoted to mental hygiene. The committee on training and personnel will sponsor a luncheon at which the training of engineers, nurses and health officers will be discussed. There will be symposia on air hygiene; incidence, distribution and significance of bacterial carriers; standard methods; bacterial dissociation; vital statistics; registration problems, and the participation of the medical profession in public health work.

Judging by the appearance of the skin of an Egyptian mummy of the date of 1200 B. C., smallpox was known to the Egyptians at that time.

Dr. Garold V. Stryker, St. Louis, was a guest of the Effingham County (Illinois) Medical Society July 14 and delivered an address on "Epidermophytosis."

The eighteenth annual Tuberculosis Day ball game will be held at Sportsman's Park, St. Louis, August 17, under the auspices of the Tuberculosis and Health Society of St. Louis to whom the proceeds of the game will go. The Cardinals will play Philadelphia; athletic events and amateur games will be added features.

The Williams and Wilkins Company, Baltimore, purchased the inventory assets of the William Wood and Company, medical publishers of New York City, on June 16. William Wood and Company was established in 1804 by Samuel Wood and the last surviving member of the family with an interest in the business, Gilbert C. Wood, died October, 1931; since that time the business has been in the hands of an executor. The firm name of William Wood and Company will be perpetuated under the new arrangement and for the present the business will be conducted from 156 Fifth Avenue, New York, although it is probable that ultimately the business will be transferred to Baltimore. The Williams and Wilkins Company is a young company which has specialized in research publications including medical works.

Dr. M. A. Bliss, St. Louis, a member of the board of managers of Missouri eleemosynary institutions, was presented a medal for conspicuous service in private life on June 24, the first to receive the Distinguished Service Medal since the authorization of the medal by the last legislature. The presentation was made by Governor Caulfield in the State Senate chamber with prominent physicians and members of the state eleemosynary board in attendance.

Dr. Bliss was the organizer and for several years president of the Missouri Mental Hygiene Society and is now honorary president. He also organized the Missouri Occupational Therapy Society; the Child Guidance Clinic, St. Louis, and the St. Louis Training School for the Feeble-minded. He is a member of the International Congress on Mental Hygiene. He was appointed a member of the eleemosynary board by Governor Caulfield in 1929.

Benign and malignant tumors will be the theme of the 1932 Graduate Fortnight of the New York Academy of Medicine which will be held in New York City, October 17 to 28. Thirty afternoon clinic meetings and demonstrations have been arranged in eighteen New York City hospitals. There will be ten evening sessions at which tumor growths in the various parts of the body will be discussed. Among the speakers will be Drs. W. Gordon M. Byers, Montreal; Edwin Beer, Charles A. Elsberg, James Ewing and Francis Carter Wood, of New York City; Donald C. Balfour, Rochester, Minnesota; Daniel F. Jones, Boston, and Dean Lewis, Baltimore.

The following articles have been accepted for New and Nonofficial Remedies:

Eli Lilly & Co.

Ampoule Sodium Amytal 0.25 Gm. ($3\frac{3}{4}$ grains)

Ampoule Sodium Amytal 0.5 Gm. ($7\frac{1}{2}$ grains)

Ampoule Sodium Amytal 1.0 Gm. ($15\frac{1}{2}$ grains)

Liver Extract No. 343, 110 Gm. bottle
Winthrop Chemical Co., Inc.

Ampules Luminal-Sodium (Powder) 5 grains

Capsules Luminal-Sodium 5 grains

Luminal-Sodium Tablets, $\frac{1}{4}$ grain

Luminal-Sodium Tablets, $\frac{1}{2}$ grain

Epilepsy is not an inherited disorder, Dr. Calvert Stein of the Monson State Hospital at Palmer, Massachusetts, reported before the meeting of the American Psychiatric Association in Philadelphia in June. Dr. Stein studied the records and family histories of over 600 epileptics admitted to Monson State Hospital and compared the data with similar facts about 190 normal, nonepileptic persons. He found nothing to justify the conclusion that epilepsy is inherited. Fits, convulsions or other seizures, migraine and other nervous or mental disorders did not occur with significantly greater frequency in the families of epileptics than in the families of the normal persons studied.

The acid or alkaline reaction of the body, on which some of the modern methods of treating epilepsy are based, is less important as a factor in the disease than the amount of fluid in the body, studies of Dr. Morgan B. Hods-kins and Dr. Riley H. Guthrie of the Monson State Hospital indicated. They followed the progress of fifty-five epileptic patients who developed cancer; in thirty-two of these patients there was a definite decrease in the frequency

of epileptic fits after the onset of the cancer. In cancer the body reaction tends to be slightly alkaline but there is a decrease in the amount of body fluids. In three other diseases in which body fluids are decreased epilepsy is relatively rare, they pointed out. For these reasons they believe the acidity or alkalinity is of secondary importance only in that it may indirectly influence the amount of fluid in the body. Their studies also suggested that the effect of oxygen on brain functions may make it an important factor in controlling convulsions.

The Kansas City Southwest Clinical Society will convene in Kansas City from October 3 to 8 with headquarters at the Hotel President. On October 7 and 8 a joint meeting will be held with the Central States Pediatric Society which will be in session on those days.

Among the guest speakers who will address the meeting of the Kansas City Southwest Clinical Society will be Drs. Chas. A. Bahn, New Orleans; Donald C. Balfour, Rochester, Minnesota; Barney Brooks, Nashville; Vernon C. David, Chicago; Ralph A. Fenton, Portland; Morris Fishbein, Chicago; Ralph E. Herendeen, New York City; James B. Herlick, Chicago; John H. Musser, New Orleans; Lewis J. Pollock, Chicago, and Francis Carter Wood, New York City.

Reduced railroad rates will be obtainable on the certificate plan for the meeting.

The eleventh annual scientific session of the American Congress of Physical Therapy will be held in New York City at the Hotel New Yorker from September 5 to 10. Scientific papers and symposia will be presented on September 6, 7, 8 and 9 and on the last day clinics will be conducted in fifteen New York hospitals. Sections on stomatology and colon therapy will be added this year. The response to requests for contributions in these fields was so great that a full day's program will be given in each section. The sections on medicine, surgery, and eye, ear, nose and throat diseases will, as heretofore, include the various group and allied specialties. Cancer, tuberculosis and arthritis will be discussed in interesting symposia. Electrosurgery of the tonsils will be dealt with by prominent laryngologists in the eye, ear, nose and throat section. The outstanding achievement in physical therapeutics, the production of artificial fever by diathermy and its use in various chronic diseases, will be given a prominent place on the program. Preliminary programs and other information may be secured by addressing the American Congress of Physical Therapy, 30 North Michigan Avenue, Chicago.

OBITUARY



WILLIAM MARCY HINDMAN, M.D.

Dr. William Marcy Hindman, son of Robert C. and Mary Hutchins Hindman, was born near Tarkio, Missouri, March 28, 1884, and died while in the office as President of the Nodaway County Medical Society on June 26, 1932, at his home in Burlington Junction.

His early education was obtained in the rural schools of Atchison County, Missouri, and the Tarkio Public Schools, and was followed by courses in the Rogers, Arkansas, Academy and in Drury College at Springfield, Missouri. He graduated with honors from the Chicago College of Medicine and Surgery in 1914, was licensed by the Missouri State Board of Health in the same year and began the practice of medicine in Quitman, Missouri. He was, in his student days, made a member of Phi Sigma chapter of the Phi Chi medical fraternity. In 1917 he removed to Burlington Junction at which place he thereafter resided and practiced.

Dr. Hindman was admitted to membership in the Nodaway County Medical Society and the Missouri State Medical Association in 1916, and was for the rest of his life a very active supporter of these organizations. He was a Fellow of the American Medical Association.

He was a regular attendant at the annual meetings of the State Association and at post-graduate clinics in various medical centers. He became a member of the staff of the St. Francis Hospital at Maryville, Missouri, in 1918 and was elected president of the Nodaway County Medical Society on December 11, 1931.

On March 17, 1932, he suffered an hemoptysis that came as his first symptom of a pulmonary sarcoma which caused his death. During the three months in which he was confined to his bed he was visited many times by all his colleagues, members of the Society which he loved, and he never failed to do his utmost to entertain them bravely and cheerily.

He is survived by his widow who was Miss Irene Thomas, of Cameron, Missouri, two sons, Byron of Gravette, Arkansas, and Billy who is at home and his mother who lives in Gravette, Arkansas.

His funeral services at the M. E. Church in Burlington Junction on June 28, 1932, were attended by the Nodaway County Medical Society in a body, with many other physicians from northwest Missouri and southwest Iowa present.

His remains were interred in Memorial Park Cemetery, at St. Joseph, Missouri.

CHARLES D. HUMBERD.

CORNELIUS C. VANDERBECK, M.D.

Dr. Cornelius C. VanderBeck, St. Louis, a graduate of the Jefferson Medical College, Philadelphia, 1872, died of cerebral hemorrhage at his home June 15, aged 79 years.

Dr. VanderBeck was born in Allentown, New Jersey, and received his preliminary education in Heightstown, New Jersey. After completing his medical education he practiced for several years in Philadelphia, moving to St. Louis in 1894. He was in active practice in St. Louis until last August when he retired.

In 1929 Dr. VanderBeck was one of thirteen physicians honored by the St. Louis Medical Society on the occasion of the culmination of 50 years of practice. He held the longest record of any member of the group present at the ceremony, his record being fifty-seven years. Dr. VanderBeck had long been a member of the St. Louis Medical Society and the State Medical Association and was a Fellow of the American Medical Association. He was elected an Honorary Member of the St. Louis Medical Society March 31, 1928.

From the time of his youth Dr. VanderBeck had found time with his studies and practice of medicine to continue an interest in music. He played the pipe organ and the piano and

before coming to St. Louis was organist in several churches.

He is survived by his widow, Mrs. Josephine VanderBeck, a daughter and a son.

GIBBON W. CARSON, M.D.

Dr. Gibbon W. Carson, St. Louis, a graduate of the Missouri Medical College, 1878, died suddenly January 23 following a heart attack, aged 78 years.

Dr. Carson was born in Washington County, Missouri, of sturdy pioneer parentage.

Soon after obtaining his medical degree he began general practice in St. Louis and continued in active work until his death.

In 1929, Dr. Carson was one of thirteen members of the St. Louis Medical Society who were honored by the Society upon the completion of fifty years of practice.

Dr. Carson had always a keen interest in his chosen profession and in mankind. A kindly sense of humor tempered a seeming austerity and his patients and colleagues held him in high regard.

Conscientious and occupied as he was in his practice he found time for his other interests, his church and the Masonic order, and he busied himself in these and medical society activities until his death. His presence and interest is deeply missed by his colleagues and associates.

FRANK P. JOHNSON, M.D.

Dr. Frank P. Johnson, St. Louis, a graduate of Western Reserve University School of Medicine, Cleveland, 1877, died of heart disease, July 19, at the St. Louis County Hospital, aged 81 years.

Dr. Johnson was born in Oberlin, Ohio, and was graduated from Oberlin College. Following closely the completion of his medical studies he began his practice in St. Louis and remained in active practice until eighteen years ago when he retired to care for his invalid wife. After her death he became an inspector in the St. Louis Health Department.

He maintained his membership in the St. Louis Medical Society even though he was not in active practice and three years ago he was honored by the Society with twelve others who had been members for fifty years or more. At that time he was made an Honor Member.

Dr. Johnson was ever active in his interest of Society and medical affairs and although he was not in active practice he will be missed by a large group of medical practitioners.

Dr. Johnson is survived by one son, Holman Johnson, with whom he resided.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL FOR 1932

(UNDER THIS HEAD WE LIST SOCIETIES WHICH
HAVE PAID DUES FOR ALL THEIR MEMBERS)

HONOR ROLL

Ste. Genevieve County Medical Society,
December 16, 1931.

Miller County Medical Society, Decem-
ber 23, 1931.

Mercer County Medical Society, Decem-
ber 24, 1931.

Camden County Medical Society, January
5, 1932.

Johnson County Medical Society, Janu-
ary 20, 1932.

Dent County Medical Society, January 22,
1932.

Macon County Medical Society, February
10, 1932.

Webster County Medical Society, March
21, 1932.

Platte County Medical Society, April 7,
1932.

Pulaski County Medical Society, April 8,
1932.

Schuyler County Medical Society, April
14, 1932.

Ralls County Medical Society, April 22,
1932.

Wright-Douglas County Medical Society,
April 26, 1932.

Barry County Medical Society, May 2,
1932.

Chariton County Medical Society, May
5, 1932.

TWENTY-FOURTH ANNUAL MEETING OF THE MISSOURI SOCIETY OF MEDI- CAL SECRETARIES

Jefferson City

Wednesday, May 25, 1932—Missouri Hotel

The Twenty-Fourth Annual Meeting of the Missouri Society of Medical Secretaries was held in the Mezzanine Dining Room of the Missouri Hotel, Jefferson City, Wednesday evening, May 25, 1932, the Secretary, Dr. J. T. Hornback, Nevada, presiding in the absence of the President, Dr. Charles D. Humbert, Barnard.

Dr. J. T. HORNBACK, Nevada, Secretary, called upon the President of the Missouri State Medical Association, Dr. J. F. Harrison, Mexico, for an address.

Dr. J. F. HARRISON, Mexico: I am sure it is mighty fine to meet with this Society and I am glad to see it is a larger meeting than the one we had last year at Joplin.

I did not want Dr. Hornback to introduce me as President. I am ex-president now. I am sorry that during my term of office I have not been over the State more and gotten more intimately acquainted with the component societies of the State Association, but since the president of the Missouri State Medical Association has the problem of taking care

of expenses, it is not practical to travel around a great deal.

I had an experience in the Army during the World War, and I said to Dr. McComas the other day that I had discovered the secretaries are the top sergeants—the fellows who know everything and get everything done. The secretaries of the various county societies are the fellows who have the information and get the work done. There is nothing so important to the life of a society as a working efficient secretary. The secretary more often than the president comes in contact with the laity, he knows what has been done, he knows who have paid their dues and who have not, and that is very important. It makes a material difference locally as well as in the revenues of the State Association and in the fine work of the finance committee, the post-graduate committee, the resolutions committee, and those who have to spend money, as well as the publication of the JOURNAL and things like that.

One thing that is a fine custom and is practical is that very often the same man serves as secretary of the county society year after year for a number of years. He becomes familiar with the work and is more efficient year by year for that reason. We have a man at home, Dr. Brashear, who has been secretary for several years. When we have an election he resigns and insists he will not serve again, but we promptly proceed to reelect him. I imagine the same thing happens in a great many county societies.

It is delightful to be here, and I have enjoyed this dinner. I thank you very much.

Dr. J. T. HORNBACK, Nevada: The next speaker will be Dr. A. R. McComas, Sturgeon, who will make the Report of the Council.

Dr. A. R. McCOMAS, Sturgeon: I think perhaps it would be a rehash of old stuff if I followed the caption printed in the program. I did not know until 5 o'clock that I was to say anything whatever.

I always enjoy attending these dinners because misery loves company. The work horse in the State Association has not yet given way to the truck and tractor. I feel about the Council and the secretaries very much as I do about the good old work horse. You throw the harness on him, and if his back is galled you throw it on again and gall it some more. That is the life of the secretary, or anyone else who continues to work for the State Association. It is only our desire to live up to the high ideals for which our organization stands that keeps us in the harness working from day to day. If it were not for the secretaries we would not have any State Association—just a lot of members.

The recent inauguration of an extension program on the part of the Postgraduate Committee will be more felt I think in the coming year than it has been before. In this time of depression we still have some funds by which we can get speakers for the county societies. We men who have to go away from home for inspiration, to attend clinics, and to get a little more scientific knowledge, will find it increasingly difficult this year. Therefore I hope that each secretary here will begin during the summer recess of your county society to formulate your programs for the fall and winter so that you may be able to have brought to you, instead of having to leave home and spend money, which some of us have not, to obtain some information of a scientific character that you cannot possibly obtain otherwise. We have many good men—I have spoken to several today who will be glad to come to your county societies.

Another thing is that your county society, when it has these meetings to which outside speakers have been invited, is not a close organization. Any one in any part of the State should be welcome to attend any county meeting. I think we will make much more use of these programs this next year than we have in former times, and I think it will become more and more popular, more and more necessary and more and more of a routine. I thank you.

The following officers were elected for the ensuing year: President, Dr. Oscar B. Hall, Warrensburg; vice president, Dr. Herbert L. Mantz, Kansas City, and Secretary, Dr. L. L. Cooper, Nevada.

On motion the meeting adjourned.

BUCHANAN COUNTY MEDICAL SOCIETY

The regular meeting of the Buchanan County Medical Society was held at the Missouri Methodist Hospital, at 8 p. m., June 15, and was called to order by the president, Dr. A. E. Burgher, St. Joseph. Thirty-five members were present.

The special committee appointed to investigate the action of various veterans' organizations regarding the building of hospitals for the maintenance of families of veterans was called on for a report.

The committee is composed of Drs. Caryl A. Potter, Wm. L. Kenney and Emmett F. Cook, of St. Joseph, representing the Buchanan County Medical Society; Drs. John I. Byrne and L. H. Fuson, of St. Joseph, from the staff of St. Joseph's Hospital, and Drs. Floyd H. Spencer and E. M. Shores, of St. Joseph, of the Missouri Methodist Hospital.

Dr. Wm. L. Kenney spoke for the committee and told of a recent visit of part of the members to the Veterans' Hospital at Excelsior Springs, which was made to obtain information and data that might give the committee some points from which to work.

No action was taken on this report as the committee has not had time to work out their recommendations.

Dr. E. M. Shores presented figures and data showing the importance of the Venereal Clinic, and recommended that steps be taken at once if possible to have it reopened.

The subject was discussed by Drs. Chas. Greenberg, W. L. Kenney, Jenner G. Jones, W. T. Stacy, G. M. Boteler, L. C. Bauman and James T. Stamey, of St. Joseph.

Dr. James T. Stamey moved that the president of this Society appoint a committee of three members to work in conjunction with the board of health to go if necessary before the City Council and show them the importance of the clinic to our community and city and get the clinic reopened.

The motion was discussed by Drs. W. T. Elam, W. T. Stacy, Chas. Greenberg, L. C. Bauman, W. D. Webb, Jacob Geiger and H. DeLamater, of St. Joseph. The motion carried.

An invitation was presented to the Society by Dr. H. DeLamater that we hold our first meeting after the vacation interim at the Woodson Sanitarium where a chicken dinner will be served.

By unanimous vote the invitation was accepted and the time set for September 7, 1932.

The scientific paper of the evening was presented by Dr. James T. Stamey, St. Joseph, on "Some of the Uses of the Galvanic Current."

The paper was well presented and explained how the current could be used with benefit in the treatment of uterine fibroids, hemorrhoids, endometritis and varicose ulcers.

The discussion was spirited and both interesting and instructive.

EMMETT F. COOK, M.D., Secretary.

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY

Meeting of May 30

A called meeting of the Cape Girardeau County Medical Society was held at Cape Girardeau May 30 at 8 p. m. with the president, Dr. W. H. Wescoat, Cape Girardeau, in the chair and the following members present: Drs. Bernard W. Hays, George W. Vinyard, D. I. L. Seabaugh and Daniel G. Siebert, Jackson; Edward Crites, Sedgewickville; Richard D. Braylock, Pocahtontas; O. L. Seabaugh, M. H. Shelby, J. H. Cochran, H. V. Ashley, Wm. E. Yount, Daniel H. Hope, H. L. Cunningham, Carl A. W. Zimmermann, Wm. N. Howard, Sylvester Doggett, Noe F. Chostner, E. H. G. Wilson, A. E. Dalton and R. P. Dalton, Cape Girardeau.

Mesdames C. L. Harrison, Warren Mabrey, Elmer Hamson and Ray Beckman were present as visitors by invitation of the president. These ladies were representatives of the local Parent-Teachers' organization.

This meeting was called for the purpose of discussing our relationship with the county health unit and to determine our course of action in regard to the approaching clinic for examination of children who will enter school next year.

Mrs. Mabrey, as spokesman for the ladies, presented their plea for cooperation in this movement. They then retired and the question was thrown open for discussion. A rather lengthy discussion ensued and a majority of those present expressed their attitude toward the proposed clinic.

President Wescoat appointed a resolution committee consisting of Drs. Cunningham, Zimmermann and O. L. Seabaugh. The committee retired and prepared resolutions which were read and adopted without a dissenting vote. The resolution follows:

WHEREAS, The entire medical profession, guided by humanitarian and scientific motives as history will reveal, has from the beginning of time been deeply interested and is still deeply interested in the promotion of the good health of the people, and

WHEREAS, The field of medicine is gradually being abusively encroached upon by various organizations, private and public, demanding free service of the physician to a degree as to be detrimental to his financial welfare as well as to the best interests of the people, the latter principally because such services (especially examinations) must, by the very manner in which they are habitually conducted, be superficial and inadequate, and

WHEREAS, The medical profession willingly as well as cheerfully always takes care of its full quota of charity work and as a principle is opposed to giving free service to those who are able to pay for it, except in a time of disaster, therefore be it

Resolved, That the members of the Cape Girardeau County Medical Association, desiring to uphold the altruistic principles of the profession, willingly offer their services gratuitously to the worthy poor in cooperation with and as recommended by reputable organizations, preferring individual rather than group examinations; be it further

Resolved, That this resolution as adopted by the Society be as binding on its members as any clause of the By-laws. Specifically, a violation of this resolution by a member of our Society renders him liable to expulsion; be it further

Resolved, That a copy of this resolution be sent to each member of the Cape Girardeau County Medical Society, the Honorable Henry Caulfield, Governor of the State, to the editor of the *Missouri State Medical Journal*, the editor of the American Medical Association and the secretary of the Parent-Teachers' Association.

H. L. CUNNINGHAM,
CARL A. W. ZIMMERMANN,
O. L. SEABAUGH,

Committee.

On motion the secretary was instructed to send a copy of the resolution to the *Southeast Missourian* with the request that it be published in that newspaper.

Meeting of June 13

The Cape Girardeau County Medical Society met in the Chamber of Commerce rooms at Cape Girardeau, June 13, 1932, with the president, Dr. W. H. Wescoat, Cape Girardeau, in the chair, and the following members present: Drs. H. V. Ashley, J. Howard Cochran, A. E. Dalton, D. H. Hope, W. N. Howard, O. L. Seabaugh, M. H. Shelby, E. H. G. Wilson, Wm. E. Young and Carl A. W. Zimmermann, of Cape Girardeau; Drs. B. W. Hays, D. I. L. Seabaugh, D. G. Seibert and George W. Vinyard, of Jackson.

Drs. Wilkes, Drace and D. M. O'Neill, of Detroit, were present as visitors and on motion by Dr. Wilson the courtesies of the Society were extended them.

A four-reel motion picture of spinal anesthesia was shown through the courtesy of the H. A. Metz Laboratories, Inc. The projection machine was lent by the Teachers' College and was operated by Prof. C. J. Payne. On motion by Dr. Wilson a vote of thanks was extended to the college and to Professor Payne.

It was moved and carried that a copy of the resolutions passed at the called meeting of May 30 protesting against the county health unit be mailed to the secretary of every county society in Missouri, also a copy to the Governor of the State and to Honorable Harry B. Hawes.

On motion by Dr. Wilson, which carried, the thanks of the Society were expressed to the president and the secretary for their action in calling the special meeting of May 30.

On motion the secretary was instructed to express the thanks of the Society to H. A. Metz Laboratories, Inc., for the use of the moving picture of spinal anesthesia.

M. H. SHELBY, M.D., Secretary.

CASS COUNTY MEDICAL SOCIETY

The Cass County Medical Society met in regular session June 9 at Drexel, at the home of our president, Dr. B. O. Hartwell. A chicken dinner was served by the Auxiliary in the basement of the Baptist Church.

The Society was addressed by two very interesting speakers, Drs. O. J. Dixon and Joseph E. Welker, of Kansas City. The subject of Dr. Dixon's paper was "The Differential Diagnosis and Treatment of Intracranial Infection." This was a very instructive paper illustrated with lantern slides and the presentation of cases.

"Edema of Cardiac Origin" was the subject of Dr. Welker's paper. After a discussion of the causes Dr. Welker gave a thorough presentation of the treatment of edema of cardiac origin.

Both papers were discussed by the members.

The Society voted to give 4-H Club members a health examination on "Health Day." This day is to be arranged by Margaret Nelson, home demonstration agent.

L. V. MURRAY, M.D., Secretary.

CLAY COUNTY MEDICAL SOCIETY

The June meeting of our Society was held at the Odd Fellows Hospital in Liberty on June 30. A complimentary dinner was served by the girls of

the institution under the able supervision of the matron, Mrs. Rogers. Some twenty-eight members, wives and visitors were seated at the bountiful feast. Dr. Spence Redman, our beloved Councilor, was present from Platte City.

Following the 12:30 dinner were speeches of welcome and good fellowship. All expressed themselves as having the habit of looking forward to this annual event. Mr. and Mrs. Rogers always receive us with a gracious welcome.

The Woman's Auxiliary held their session at the Liberty home of Dr. and Mrs. J. M. Rothwell.

The scientific meeting divided itself for the first time in our history into the medical and surgical sections. Abundance of postgraduate study was presented.

Dr. F. B. Campbell, Kansas City, gave a practical lecture on proctology encouraging the growing interest in the subject. Dr. C. J. Hunt, Kansas City, long a friend of the Clay County Medical Society, had the subjects of goiter and gastro-intestinal ulcer and illustrated his talk with skiagrams. All was a study of the most practical sort.

The surgical section conducted by Dr. Raymond E. Teall, Kansas City, had presentations of numerous nose and throat cases of great interest. The Clay County Medical Society is fortunate in its proximity to Kansas City where some of the ablest men in the West are found.

Our Society loses one valued member, Dr. O. S. Wilfley, in United States Veterans' service at Excelsior Springs, by removal to an Alabama institution. Dr. and Mrs. Wilfley will be missed.

In spite of the awful, grinding stringency, one of our members paid dues. We are doing our best.

The next meeting will be held in October at Excelsior Springs.

J. J. GAINES, M.D., Secretary.

FIVE COUNTY MEDICAL SOCIETY

The Five County Medical Society of Southeast Missouri held its second quarterly postgraduate session at New Madrid, June 14, at the Court House at 7 p. m. The ladies of the Methodist Church served a splendid dinner in the basement of the Court House. There were thirty-seven members present and a few visitors. Dr. W. N. O'Bannon, New Madrid, presided over the meeting in the absence of the president, Dr. Claude McRaven, Marston, whose turn it was to act as host. After the splendid repast Dr. Paul Baldwin, Kennett, was called on to give a short talk for the good of the order.

Dr. Baldwin, in his usual humorous manner brought out many of the phases of New Madrid's history. It is the second oldest town in the State and is noted for the great earthquake bearing its name which is likely responsible for the fertile soil that makes this section of Missouri one of the important ones to the State. It is practically the only flat country and only cotton country of the State, yet, Dr. Baldwin stated that the town of New Madrid boasts of only three more inhabitants today than it had in the year 1810.

At 8 p. m. the meeting was adjourned for the postgraduate lectures and the members assembled in the main court room.

Dr. Joseph P. Costello, St. Louis, opened the program with a paper entitled "Treatment of Some Common Acute Conditions of Infants and Chil-

dren." Much of his time he gave to proper feeding and preventive measures. Diarrheal disturbances were thoroughly and ably covered. Pyloric stenosis and pylorospasm, otitis, some respiratory and focal infections were touched on along the more important lines, especially giving the later viewpoints. The importance of fluid, especially the intravenous injections of saline fluids and blood transfusions, was emphasized.

No subject was ever given before our group that proved more interesting and it was requested by a large number of the members that Dr. Costello be recalled at some later date to give us more information along these important lines. More members expressed their opinion of the excellence of this lecture to the secretary than of almost any other we have had.

Dr. Harry G. Bristow, St. Louis, appeared next on the program and addressed us on "Diagnosis and Treatment of Some Acute Infections." He treated this subject in a most unusual and instructive way, laying special stress on the usefulness of the microscope. He gave us much useful material in clearing up some obscure troubles that would otherwise give the practitioner room for weary pondering. Many a microscope that has been hidden in the dust of time has been polished up and brought out of its dormant state since his splendid lecture.

By special permission Dr. Alphonse McMahon, St. Louis, changed his subject "Treatment of Some Chronic Infectious Diseases," to "The Endocrines." This splendid subject was illustrated by lantern slides that furnished aid to the understanding of the subject. We all quite agreed with him that the pioneer work done in this phase of medicine is one of the most important to the profession and patients. The rapid strides of knowledge along this line have changed much of our viewpoint in the care of the bugbear patients who have been termed hypochondriac, neurotic, hysterical and emotionally unbalanced. Dr. McMahon offered many suggestions that will prove helpful toward making life more worth while for many of our previously undesirable patients. We need many more of such lectures.

A large number of our members discussed these papers with enthusiasm and asked many pertinent questions, the best proof to the essayists that their efforts were appreciated and had proved worth while.

The next meeting of the Five County Group will be the second Tuesday in September with the Dunklin County Medical Society acting as host. The place will be selected at a later date and the subjects and essayists selected in due time. A cordial invitation is extended to all reputable doctors to attend from anywhere.

JOHN D. VAN CLEVE, M.D.,
Corresponding Secretary.

GASCONADE-MARIES-OSAGE COUNTY MEDICAL SOCIETY

The Gasconade-Maries-Osage County Medical Society met at Mount Sterling, June 23. Dr. M. E. Spurgeon, Red Bird, president, called the meeting to order.

Dr. Richard S. Weiss, St. Louis, gave a very enlightening talk on "Precancerous Dermatitis," and Dr. L. H. Jorstad, St. Louis, discussed "Cancer of the Lip and Mouth," which was also very interesting.

The Society passed a resolution thanking these men for their valuable talks and also the Post-

graduate Committee of the State Association for sending us such high-type men.

Dr. F. J. Wessling, Hermann, and Dr. J. O. Cooper, Osage County Health Officer, Linn, were present.

The next meeting will be held some time in August at Mount Sterling.

O. H. JONES, M.D., Secretary.

LAFAYETTE COUNTY MEDICAL SOCIETY

The regular meeting of the Lafayette County Medical Society was held in Odessa, June 28, at 8:00 p. m., as a joint session with the members of the county dental profession. The program was devoted to the relation of dental problems to medicine.

The program having been arranged by Dr. C. T. Ryland, Lexington, the president, Dr. Odus Liston, Oak Grove, turned the meeting over to Dr. Ryland's supervision.

Twenty-five physicians and eighteen dentists were present.

Dr. C. W. Johnston, D.D.S., Lexington, showed a motion picture film entitled "How Teeth Grow."

Dr. A. O. Gruebel, D.D.S., Lexington, read a paper on "Dental Hygiene and Diet."

Dr. J. Q. Cope, Lexington, read a paper entitled "Medicine and Its Specialties."

Following the program the meeting adjourned to meet with the Woman's Auxiliary who had as their guests the wives of the dentists at the Log Cabin Inn where delicious refreshments were served and entertainment provided.

J. DE VOINE GUYOT, M.D., Reporter.

ST. FRANCOIS-IRON-MADISON COUNTY MEDICAL SOCIETY

The St. Francois-Iron-Madison County Medical Society met in the county court house at Farmington on Friday, June 24. The meeting was called to order by the president, Dr. D. Appleberry, River Mines.

We had with us two very interesting speakers furnished by the Postgraduate Committee of the State Association. Dr. Borden S. Veeder, St. Louis, gave us an interesting talk on "Some Common Conditions in Children and Their Treatment." An equally good paper by Dr. Warren R. Rainey, St. Louis, was entitled "The Office Treatment of Rectal Condition." There was a good discussion of both papers by members of the Society.

It was decided to hold the next meeting in September and the program will be furnished by members of the Society. Drs. David E. Smith, Bonne Terre, and W. E. Aubuchon, Leadwood, were appointed to select the speakers for this meeting.

Dr. W. E. Aubuchon was appointed as the third member of the committee on membership.

C. H. APPLEBERRY, M.D., Secretary.

CANKER SORES

Canker sores often are caused by some particular food or foods. Nuts is a common cause. This has led to the belief that canker sores are an expression of protein sensitization that occurs on the mucous membrane of the mouth, like hives on the skin. Start on a milk diet; then add each day some one food product to detect the disturbing substance, *Hygeia* suggests.

WOMAN'S AUXILIARY

Officers 1932-1933

President, Mrs. Davis S. Long, Harrisonville.
 President-Elect, Mrs. Hudson Talbot, St. Louis.
 1st Vice President, Mrs. W. H. Goodson, Liberty.
 2nd Vice President, Mrs. S. P. Howard, Jefferson City.
 3rd Vice President, Mrs. Ola Putman, Marceline.
 4th Vice President, Mrs. W. H. Breuer, St. James.
 Corresponding Secretary, Mrs. M. P. Overholser, Harrisonville.
 Recording Secretary, Mrs. Howard B. Goodrich, Hannibal.
 Treasurer, Mrs. James F. Owens, St. Joseph.
 Auditor, Mrs. L. S. James, Blackburn.
 Directors (1 year), Mrs. George Ruddell, St. Louis; Mrs. L. H. Callaway, Nevada; Mrs. H. W. Carle, St. Joseph; Mrs. G. B. Schultz, Cape Girardeau, and Mrs. John A. Powers, Warrensburg. (2 years) Mrs. Reuben Barney, Chillicothe; Mrs. James N. Barger, Albany; Mrs. E. L. Johnson, Concordia; Mrs. C. M. Sneed, Columbia, and Mrs. James E. Stowers, Kansas City.

ORGANIZED COUNTIES AND PRESIDENTS

COUNTY	PRESIDENT AND ADDRESS
Boone.....	Mrs. C. M. Sneed, Columbia
Buchanan.....	Mrs. C. H. Werner, St. Joseph
Cass.....	Mrs. H. A. Brierly, Peculiar
Cape Girardeau.....	Mrs. J. H. Cochran, Cape Girardeau
Clay.....	Mrs. H. J. Clark, Excelsior Springs
Cole.....	Mrs. Stanley P. Howard, Jefferson City
Gentry.....	Mrs. W. T. Martin, Albany
Greene.....	Mrs. W. C. Cheek, Springfield
Jackson.....	Mrs. Wilbur A. Baker, Kansas City
Johnson.....	Mrs. William R. Patterson, Warrensburg
Lafayette.....	Mrs. Odus Liston, Oak Grove
Linn.....	Mrs. Ola Putman, Marceline
Livingston.....	Mrs. Reuben Barney, Chillicothe
Randolph-Macon.....	Mrs. P. C. Davis, Moberly
St. Louis City.....	Mrs. A. G. Wichman, St. Louis
Saline.....	Mrs. L. S. James, Blackburn
Vernon-Cedar.....	Mrs. T. B. Todd, Nevada
26th District.....	Mrs. W. H. Breuer, St. James

WOMAN'S AUXILIARY TO THE MISSOURI STATE MEDICAL ASSOCIATION

Eighth Annual Meeting, Jefferson City May 23, 24, 25, 1932

The Eighth Annual Meeting of the Woman's Auxiliary to the Missouri State Medical Association, held in Jefferson City, May 23, 24, 25, had an attendance of more than one hundred women. The president, Mrs. U. J. Busiek, Springfield, and the chairman of the Committee on Arrangements, Mrs. S. P. Howard, Jefferson City, with her subcommittees had developed their respective plans so well that the meeting, both at work and at play, proved great efficiency on the part of those in charge. The business meetings were interesting, informing and helpfully stimulating for future activities. The care of the visitors was admirable. The diversions and recreations were delightful and in many instances only such as could be supplied in Jefferson City.

Of importance to every Missouri Auxiliary woman will be the following abridgment of the report given by Mrs. U. J. Busiek, Springfield, of her administration as president of the Auxiliary for 1931-1932:

The Missouri Auxiliary reports 743 paid-up members, 23 counties organized including 5 in the 26th District Auxiliary, making 19 active auxiliaries.

Our committees correspond with those in the National

organization with the addition of a courtesy chairman who sends messages to those in the Auxiliary who have had a particular happiness or sorrow.

This is our first year to have a state budget.

We published a Year Book this year in honor of the National President, Mrs. Arthur B. McGlothlin, St. Joseph. Besides the history of the counties, it contains a history of the State prepared by our historian, Mrs. David S. Long, Harrisonville, who is also chairman of archives, a position which was created with the hope of preserving our history before those who have made it have passed on.

We are given space in the *Journal of the Missouri State Medical Association* monthly. The St. Louis City and Jackson County auxiliaries are given space in the medical society bulletins.

Our special educational project this year is the Andrew Walker McAlester Memorial Foundation Fund established by the State University and the Missouri State Medical Association for the education of the laity, to which \$95 was contributed by the Auxiliary.

Four midyear state board meetings and monthly letters have helped to foster a spirit of friendliness and cooperation among the members.

Besides supplying various organizations with the National Study Envelopes, 850 copies and other literature have been sent to parent teacher groups in the State.

Our Hygeia chairman reports 520 Hygeia subscriptions, placed mostly in schools and public reading rooms through Auxiliary activities. Besides supplying rural schools with subscriptions the St. Louis City Hygeia chairman, Mrs. Joseph Trigg, St. Louis, has placed subscriptions which will undoubtedly do a great deal of good in the following places: Homes for working girls, Young Women's Christian Home, Y. W. C. A. (white and colored), Boyle Center, Wesley House, Jewish Home, Queen's Daughters and the Katherine Springer Home. Buchanan County gave 144 subscriptions to rural schools.

Other county auxiliary activities have been social, philanthropic and educational. Eight of the auxiliaries prepared year books or program outlines for their individual organizations. Educational material used on the programs were: Hygeia magazine; American Medical Association leaflets, particularly "Some High Spots in 50 Years of Medical Progress"; material from the State Board of Health; book reviews including Mrs. Red's "The Medicine Man in Texas"; American Society for the Prevention of Cancer literature; Tuberculosis Association literature and the Story of Jane Todd Crawford.

Luncheons or teas were given by five counties to which all local women's clubs were invited. Dr. Arthur J. Cramp, Chicago, Director of the Bureau of Investigation, American Medical Association, gave illustrated lectures on "Cosmetics" and "Quackery in Medicine" in Kansas City and Springfield. Members of the Livingston County Auxiliary made health talks before civic and study clubs. Cole County had a talk on milk sanitation by Mr. Scott Johnson of the State public health division in Jefferson City. The first October meeting of the St. Louis City Auxiliary was designated as "Public Relations Day" at which a special speaker talked to the Auxiliary members and invited guests on the needs of the city institutions. St. Louis City and Springfield auxiliaries had speakers from the State Tuberculosis Association on "The Latest Development in the Prevention of Tuberculosis." Radio health talks were broadcast in Kansas City, St. Louis City and St. Joseph by physicians.

Much appreciated cooperation and expressions of approval have been received from our State Medical Association.

Mrs. M. P. OVERHOLSER, Chairman, Press and Publicity.

Albert S. Crawford, Detroit (Journal A. M. A., April 30, 1932), reports six series with a total of thirty-one cases of meningitis from six clinics, with a combined treatment, which consisted of intracarotid injections of Pregl's solution of iodine alone or with specific serums, or other chemotherapy. The injections were usually followed by either repeated lumbar or cistern punctures or continuous subarachnoid drainage. Twenty-five cases were nonmeningococcal, with six recoveries (24 per cent). Six were of the meningococcal type, which had shown unfavorable response to specific medical treatment, with four recoveries (66.7 per cent). Pregl's solution of iodine was used in five cases of brain abscess, with two recoveries. It was also used in three cases of septicemia with two recoveries, one case of encephalitis with death, and one case of Vincent's lung abscess with improvement. The author reports these cases for the sake of record and with the hope that others will try out, in suitable cases, this combined method of treatment.

TRUTH ABOUT MEDICINES

FOODS

The following products have been accepted by the Committee on Foods of the American Medical Association for inclusion in Accepted Foods:

JELKE GOOD LUCK OLEOMARGARINE (John F. Jelke Company, Chicago).—An oleomargarine of oleo oil, neutral leaf lard and acidulated milk solids (inoculated); equivalent to butter in vitamins A and D content; contains added salt. This oleomargarine is claimed to be suitable for cooking and table use and nutritionally equivalent to butter.

WINTER'S WHITE SLICED BREAD (Southern California Baking Company, San Diego, Calif.).—A sliced white bread made by the sponge dough method. It is claimed to be a bread of good quality.

KNOX-JELL. A Gelatine Dessert (Charles B. Knox Gelatine Company, Johnstown, N. Y.).—Gelatine dessert preparations; containing sucrose, gelatin and citric or tartaric acid; colored with certified food color or vegetable color and flavored with terpeneless oil of lemon, lime, or orange, or raspberry or strawberry extracts. One package (1 pound 10 ounces) is claimed to make one gallon of dessert.

PIXIE STRAINED CELERY SOUP (Fruit Belt Preserving Company, East Williamson, N. Y.).—Canned soup of sieved celery; containing in large measure the mineral and vitamin content of the raw celery used; contains a small amount of added salt. This product is recommended for infants, children, convalescents and special diets.

BEST'S BREAD (The Best Baking Company, Inc., Oakland, Calif.).—A white bread made by the sponge dough method. It is claimed to be a bread of good quality. (Jour. A. M. A., February 6, 1932, p. 480.)

HYGEIA PURE STRAINED PEAS (The Snider Packing Corporation, Rochester, N. Y.).—Strained peas retaining in large measure the mineral and vitamin content of the raw peas used with added vitamin D, 60 units per fluidounce; packed in jars. One fluidounce is claimed to be equivalent in vitamin D to the D content of one teaspoonful of cod liver oil. These peas are recommended for infants, children and convalescents and in special diets. They are claimed to be scientifically prepared to retain to a maximum degree, or so far as is possible by present commercial sieving and canning methods, the natural mineral and vitamin values of peas.

FRANCK TABLETS (Heinr. Franck Sons, Inc., Flushing, N. Y.).—Roasted chicory root; ground and pressed into tablets. The roasted chicory tablets are suitable for addition to coffee beverage.

PAUL'S SANDWICH BREAD (Paul's Baking Corporation, Chicago).—A white bread made by the sponge dough method. It is claimed to be a bread of good quality. (Jour. A. M. A., February 13, 1932, p. 555.)

ALICE OF OLD VINCENNES TOMATO JUICE (Vincennes Packing Corporation, Vincennes, Ind.).—A pasteurized tomato juice with added salt claimed to retain in high degree the vitamin content of the raw juice. This tomato juice is claimed to be a good source of vitamins A and B and an excellent source of vitamin C. It is suitable for infant feeding and for general table use.

"220" BREAD (Korn's) (H. Korn Baking Company, Davenport, Iowa).—A white bread made by the sponge dough method. It is claimed to be a bread of good quality.

BORDEN'S OREGON, PEARL, ST. CHARLES, MARICOPA AND SILVER COW BRANDS EVAPORATED MILK (The Borden Company, New York.).—Canned, unsweetened, sterilized, evaporated milk. These brands of evaporated milk are claimed to be suitable for general baking, cooking and table uses and in infant feeding. The mixture of equal parts of the evaporated milk and water is not below the legal standard for whole milk. The curds formed in the stomach are claimed to be smaller, softer and more readily digestible than those from raw or pasteurized milk.

BORDEN'S PURE ORANGE JUICE (Borden's Farm Products Company, Inc., New York.).—An unsweetened, uncolored frozen orange juice packed in hermetically sealed half pint paper containers. It is claimed to be nutritionally equivalent to fresh orange juice and suitable for all the uses of fresh orange juice. It is packed in paper cartons for daily delivery to the final consumer.

WOLF'S BREAD (William Wolf's Bakery, Inc., Baton Rouge, La.).—A white bread made by the sponge dough method. It is claimed to be a bread of good quality. (Jour. A. M. A., February 20, 1932, p. 640.)

HYGEIA PURE STRAINED CARROTS (Snider Packing Corporation, Rochester, N. Y.).—Strained carrots retaining in large measure the mineral and vitamin content of the raw carrots used; with added vitamin D, 60 units per fluidounce; packed in jars. One fluidounce is claimed to be equivalent in vitamin D to the D content of one teaspoonful of cod liver oil. These carrots are recommended for infants, children and convalescents and in special diets. They are claimed to be scientifically prepared to retain to a maximum degree, or so far as is possible by present commercial sieving and canning methods, the natural mineral and vitamin values of carrots.

U-COP-CO GELATINES (Flaked and Granulated) (United Chemical and Organic Products Company, Chicago).—Granular and flake plain unsweetened gelatin; graded on the basis of jelly strength for special uses. U-Cop-Co Gelatines may be used in a wide variety of desserts, candies, salads, marshmallows, ice cream, jellied meats and other recipes and are valuable for many special diets.

FREIHOFFER'S 100 PER CENT WHOLE WHEAT BREAD (The Freihofer Baking Company, Philadelphia).—A whole wheat bread made by the straight dough method. It is claimed to be a bread of good quality. (Jour. A. M. A., February 27, 1932, p. 737.)

DRUGS

THE KAADT DIABETES TREATMENT.—Reports are being received that a diabetic treatment is being sent out by the Diabetic Laboratories of Fort Wayne, Indiana, the material as sent to the patient by this concern being signed by C. F. Kaadt, M.D. A quart bottle of the medicine is sold for five dollars and the patient is asked to disregard the testing of urine for sugar. A request sent to Dr. Kaadt by the American Medical Association Bureau of Investigation, requesting that he declare the composition, did not bring this information. Instead it appeared by the reply that while Dr. Kaadt is willing to let laymen infer that he has a cure for diabetes and sells this remedy on the mail-order plan, telling diabetics that when using it, it is unnecessary for them to use insulin or diet, he is as yet unwilling to give the medical profession any information on the subject. This, in spite of the fact that he admits that he has used his remedy for nine years and that he has never failed to produce a cure. (Jour. A. M. A., August 15, 1931, p. 479.)

PERNOCTON—Not Acceptable for N. N. R.—Pernocton, stated to be a 10 per cent solution of the

sodium salt of the secondary butyl-beta-bromallyl barbituric acid, was submitted to the Council on Pharmacy and Chemistry by Riedel-de Haen, Inc. The product is proposed for intravenous injection for production of "Pernocton sleep." Since the name is therapeutically suggestive, the firm proposed to replace it with "Pernoston" and requested consideration of the product under the latter name; however, advertising as late as May, 1931, still bears the name Pernocton. The Council on Pharmacy and Chemistry declared the name Pernocton therapeutically suggestive and held the product, whether marketed as Pernocton or Pernoston, unacceptable for New and Nonofficial Remedies for lack of critical evidence that routine intravenous injection of potent narcotics is desirable or safe. (Jour. A. M. A., October 3, 1931, p. 1001.)

THE A. M. A. CHEMICAL LABORATORY.—The A. M. A. Chemical Laboratory cannot analyze specimens for individuals. 1. The chemical work undertaken by the Laboratory must be of *general* interest to physicians. 2. The Laboratory is busily engaged in the work for which it was founded, namely, investigations of the newer remedies for the Council on Pharmacy and Chemistry. 3. The Laboratory undertakes examination only of products in original containers, bearing original labels and the source of which can be vouched for in case of possible court action. 4. The present Laboratory would need much enlargement and a far larger staff to examine specimens for all of the one hundred thousand physicians it is designed to serve. (Jour. A. M. A., October 3, 1931, p. 1001.)

FOODS AND FOOD ADVERTISING.—Today, advertising of foods, separate from the package container, is not controlled by any food statutes, and indeed is quite free of any efficient control. The writer of advertising of food products, aside from such limited knowledge of foods and nutrition as he may possess, has only a versatile vocabulary and his conscience as guides in dramatizing the virtues of the products he proclaims to the public. Under these conditions, advertising for food products began to approach the tales of Hans Christian Andersen and the brothers Grimm. Into this mass of mingled truth and deception entered the Committee on Foods of the American Medical Association. It is not surprising that its initial steps should have been greeted with apprehension and bitter deprecation by some of the organs of the food industry, of business and of advertising. The Committee on Foods was established to protect the readers of the journals published by the American Medical Association against improper claims made for foods. If the medical profession required such protection, how much more was the protection necessary for the average layman to whom the same claims were made as were made to physicians. Only those who have been actively associated with the Committee on Foods can realize the vast amount of good already accomplished. (Jour. A. M. A., October 3, 1931, p. 1004.)

LACTO-KELPOL.—Not Acceptable for N. N. R.—The Council on Pharmacy and Chemistry reports that Lacto-Kelpol is the proprietary name under which the Kelp-Ol Laboratories, Inc., submitted a preparation stated to consist of lactic acid, agar-agar, mineral oil, sodium benzoate, water and flavoring. The chief claim for this product was that it is prepared by a special process whereby the lactic acid is "locked up with the agar so that it is unaffected by the gastric juice." The Council declared the product unacceptable for New and Nonofficial Remedies because there was no satisfactory evidence for the

claim that the lactic acid contained in Lacto-Kelpol emulsion behaves essentially differently from a dilute solution of lactic acid. When the Council's report was submitted to the Kelp-Ol Laboratories, postponement was requested in order that further evidence might be submitted. The firm submitted further evidence, but this evidence did not permit acceptance by the Council of the statement that the behavior of Lacto-Kelpol in the human intestine is essentially different from that of a dilute solution of lactic acid, and accordingly the Council confirmed its decision declaring Lacto-Kelpol unacceptable for New and Nonofficial Remedies. (Jour. A. M. A., October 10, 1931, p. 1077.)

IS MANGANESE AN ESSENTIAL ELEMENT?—Considerable has been written of late about the possible role of copper as a "promoter" of hemoglobin formation in certain types of anemia. It appears to act as a supplement to iron in this process. A similar function has been attributed to other elements, notably manganese, though the claims are still stoutly denied by the majority of investigators. Manganese is constantly present in animal tissues and this has led to the assumption that it is likely to promote some useful purpose. Experiments have been reported in which the addition of traces of manganese to a diet of whole cow's milk supplemented with iron and copper has a favorable effect on the growth of mice and that without manganese, they failed to ovulate properly. The latter was true also for female rats. These experiments indicate that manganese may be closely connected with the reproductive organs. Other investigators also insist that manganese does not take part in blood regeneration, but that the element aids in rendering a diet complete for the support of reproduction and suckling of young. (Jour. A. M. A., October 10, 1931, p. 1078.)

DONHIDE—Another Nostrum for Epilepsy.—Numerous attempts to relieve epilepsy have resulted in the development of certain well known drugs of a sedative character which control the attacks to some extent but do not constitute a "cure." The Bureau of Investigation of the American Medical Association has a pamphlet which lists a considerable number of preparations purveyed directly to the public with unwarranted claims as to their merit in this disease. Practically all these preparations have in the past been found to contain bromides or phenobarbital (luminal) as their potent ingredient. The most recent addition to this class of preparations is "Donhide," said to be made by the Riverside Laboratories, New York. The advertising is unusually insidious—even governors of states have been urged to use the preparation in state institutions. When the purveyor of the nostrum was informed that the statement of composition of Donhide, namely, sodium bromide, ammonium bromide, scutellaria, cinchona, glycerin and aqua distillata—was unquantitative and therefore of little value, and that there was no reason to believe that this medicament could do anything that any other mixture of bromide could not do, the firm replied that it acted solely in the capacity of sales and distributing agent and that the manufacturer is the Riverside Laboratories, and that because of the information received the composition had been modified; it also offered to find a new name and objected to the charge that the claims were not warranted. Subsequently a statement was received from the Manhasset Chemical Co., Inc., stating that the sale and promotion of Donhide had been discontinued. (Jour. A. M. A., October 10, 1931, p. 1079.)

BOOK REVIEWS

VARICOSE VEINS. With Special Reference to the Injection Treatment. By H. O. McPheeters, M.D., F.A.C.S., Director of the Varicose Vein and Ulcer Clinic, Minneapolis General Hospital, etc. Illustrated with 62 half-tone and line engravings. Third revised and enlarged edition. Philadelphia: F. A. Davis Company. 1931. Price \$4.00.

The third edition of McPheeters' work on varicose veins has been revised and enlarged and is the very best treatise I know of on this subject. It gives one a very clear-cut working knowledge of this condition and the mechanics involved in the treatment. Any one contemplating the injection treatment of varicose veins would do well to familiarize himself with McPheeters' ideas. J. G. H.

A HANDBOOK FOR SENIOR NURSES AND MIDWIVES. By J. K. Watson, M.D. (Edin.), Capt., R.A.M.C., Late House-Surgeon, Essex and Colchester Hospital and Assistant House-Surgeon, Sheffield Royal Infirmary and Sheffield Royal Hospital. Second edition. Oxford University Press, American Branch, 114 Fifth Avenue, New York. Price \$4.00.

This book is divided into five parts and covers the field of general medicine and surgery. Part four is a discussion of obstetrics. The midwife in America is oftentimes senile, unclean, obese and incompetent. She knows nothing about surgical cleanliness and little about the mechanism of labor. The modern nurse is intelligent, educated and efficient and does not aspire to the office of midwife. Therefore a book interlocking the midwife and nurse has no appeal in this country. Many of the procedures recommended are not accepted as modern. The book is well illustrated and indexed and might be of value as a reference book. M. A. H.

SURGERY: ITS PRINCIPLES AND PRACTICE. For Students and Practitioners. By Astley Paston Cooper Ashhurst, A.B., M.D., F.A.C.S., Professor of Clinical Surgery in the University of Pennsylvania, etc. Fourth edition, thoroughly revised. With 15 colored plates and 1063 illustrations in the text, mostly original. Philadelphia: Lea & Febiger. 1931. Price \$10.00.

As is typical of Ashhurst's contributions to surgery, his recent book on "Surgery, Its Principles and Practice," in its fourth edition, is well written, concise in detail and lacks verbosity. It is easily read and should be understood without effort by student or practitioner because it is comprehensive from start to finish.

Of course it is very difficult for any one to pick up a book of this type and understand a surgical operation if one has no knowledge of general surgery. But to all who have had didactic training and some surgical experience this book offers tremendous appeal. It does not bother and annoy one by frequent interruptions with names of unknown authors who have contributed something which because of its limited use may or may not be of value.

This book is thoroughly practical. It is primarily preferable as a textbook to students; and secondarily to practitioners who want to rehearse the technical points of an operation or treatment or to study quickly a subject upon which they need a hasty review. But it is not meant to take the place of an

index medicus and for that reason it is invaluable as a reference book for the doctor's private library.

Several chapters seem specially well written. The chapters on amputations, general orthopedic surgery, hernias, peritonitis and last but not least, venereal diseases, were most impressive to the reviewer. K. W. K.

THE SURGICAL CLINICS OF NORTH AMERICA. (Issued serially, one number every other month.) Volume 12, No. 3. (Lahey Clinic Number—June, 1932.) 299 pages with 123 illustrations. Philadelphia and London: W. B. Saunders Company. Per clinic year (February, 1932, to December, 1932). Paper, \$12.00; cloth, \$16.00.

This is the Lahey Clinic Number and measures up well with other numbers from the various clinics. There are contributions on surgery, anesthesia, medical, gastro-enterology, orthopedic, urology and diseases of the ear, nose and throat.

SURGICAL ERRORS AND SAFEGUARDS. By Max Thorek, M.D., Surgeon-in-Chief, The American Hospital, Chicago, etc. With a foreword by Arthur Dean Bevan, M.D., Professor and head of the Department of Surgery, Rush Medical College of the University of Chicago. 668 illustrations, many colored. Philadelphia: J. B. Lippincott Company. Price \$10.00.

This is a very valuable book for the recent graduate and beginner in surgery. The occasional operator would do well to refer to this book before every operation. The many pitfalls to which a surgeon is heir are collected and ably discussed. The experienced surgeon hardly needs the book since he is already very generally familiar with its contents. T. G. O.

EMERGENCY SURGERY. By John William Sluss, A.M., M.D., F.A.C.S., Associate Professor of Surgery, Indiana University School of Medicine, etc.; John Walter Martin, M.D., F.A.C.S., Vice President and Surgical Director, United States Fidelity and Guaranty Company, Baltimore, Md.; David Hart Sluss, M.D., F.A.C.S., Late House Surgeon, Boston City Hospital, and New York Hospital for Ruptured and Crippled, etc., and Camilius Bowen DeMotte, B.S., M.D., Late House Surgeon, Boston City Hospital, etc. Fifth edition, revised and enlarged with 797 illustrations, some of which are printed in colors. Philadelphia: P. Blakiston's Son & Co. Price \$5.00.

This book is a complete and detailed treatise on major and minor emergency surgery designed to meet the needs of the general practitioner who is called upon to do emergency surgery in whatever circumstances he may find himself.

The entire book deals with technic and the manner of treatment and in no wise attempts to present the fundamentals upon which such treatment is based or indicated, hence it is quite dogmatic in stating procedures and methods of treatment.

Regarded purely as a practical manual of emergency treatment it serves well the purpose for which intended. No field of major surgery is omitted and the subject is thoughtfully and clearly stated. Numerous illustrations further clarify the most important points.

The book fills a real need of the general practitioner who is confronted with emergency surgical tasks and out of reach of the surgical specialist and adequate hospital facilities. R. W. S.

RECENT ADVANCES IN ALLERGY. (Asthma, Hay-Fever, Eczema, Migraine, etc.) By George W. Bray, M.B., Ch.M. (Sydney), Asthma Research Scholar, The Hospital for Sick Children, Great Ormond Street, London. With foreword by Arthur F. Hurst, M.A., M.D. (Oxon.), F.R.C.P., Senior Physician, Guy's Hospital, etc. 98 illustrations, including 4 coloured plates. Philadelphia. P. Blakiston's Son & Co. 1931. Price \$3.50.

The book is well written and contains an excellent review of the literature—in fact, one of the most complete reviews which has been published so far. The subject is discussed both from an experimental and clinical point of view and is taken up in a broad way.

W. W. D.

A MEDICAL FORMULARY. By E. Quin Thornton, M.D., Assistant Professor of Materia Medica in the Jefferson Medical College, Philadelphia. Thirteenth edition, revised. Philadelphia: Lea & Febiger. 1932. Price \$2.50.

The two thousand prescriptions with indications for their use which make up this work have been thoroughly revised and newer therapeutic agents, such as the ephedrine derivatives, hexylresorcinol, liver extract, ventriculin, and viosterol, have been included. This pocket-size volume of 352 pages, bound in flexible cloth, fills a real need as a reminder for the physician and as a practical guide for the student. The first 34 pages present much valuable tabular data, the text material is arranged alphabetically by diagnoses for quick consultation and there are reliable comments and annotations on the formulas offered. Amounts are given in both the apothecary and the metric systems. The work has a commendable influence in discouraging the use of proprietary, trade-monopolized and patented preparations.

C. D. H.

A DIABETIC'S OWN COOK BOOK. By Stella H. Lyons. With a foreword by Logan Clendening. New York: Alfred A. Knopf. 1932. Price \$2.00.

The author of this booklet, a cook book for diabetics, prefaces her remarks by stating that her mission in writing the book is to remove that bugaboo, the scales, for the layman who has not the time nor the inclination to study and transcribe measurements. The sense of gross measurements pervades the entire book which is written by a lay woman in an easy style and a most human manner, yet in quite succinct terms.

The book is replete with recipes, sample diets and caloric charts from which one can select a proper diet according to his particular need. The recipes for the preparation of desserts and other foods, generally prohibitive to diabetics, are well worth the price of the book.

As Logan Clendening says in the Foreword "It is a good cook's wisdom about her own diabetes." The reviewer heartily recommends this little cook book to every one who is interested in food stuffs and their preparation. No library is complete without the addition of this small volume.

A. C. C.

INFECTIONS OF THE KIDNEY. By Meredith F. Campbell, M.D., F.A.C.S., Attending Urologist, Babies' Hospital; New York Nursery and Child's Hospital; Assistant Visiting Urologic Surgeon, Bellevue Hospital, New York. New York: Harper & Brothers. 1931. Price \$3.00.

This is one of Harper's Medical Monographs.

The author has drawn largely and well from the literature and evidently from an extensive experience in the discussion of infections of the kidney. There are notable chapters on diagnosis and treatment, and a careful study of renal infection in pregnancies and in infancy and childhood. The chapter on renal tuberculous infection is valuable. His study of etiology of renal infections, largely surgical types, is commendable. He directs attention likewise to the often overlooked neuromuscular urinary retention, both the congenital and the acquired types. The book, while brief, is refreshing, up to the minute and well worth the investment both for the urologist and the general practitioner.

W. A. M.

IMHOTEP TO HARVEY. Backgrounds of Medical History. By C. N. B. Camac, M.D., Assistant Professor of Clinical Medicine, College of Physicians and Surgeons, Columbia University, New York. Foreword by Henry Fairfield Osborn, Sc.D., LL.D. New York: Paul B. Hoeber, Inc. 1931. Price \$3.75.

The material for this informative study has been gathered from near and far. Its tables are, "Approximate Dates of Earliest Known Records," "The Written Record," "General View of the Development of Learning From Earliest Times to the Seventeenth Century," "Ancient Seats of Learning," and "Localities of Early Schools and Universities With Date of Founding."

The particular period under consideration ranges from Imhotep (± 2890 B.C.) to Harvey (1578-1657 A.D.); the author has very properly held that a fairly extensive background is requisite for even an approximate evaluation, hence the scope, as suggested by the tables, and also as developed by him in the text.

While medical historiography is a cultural feast for colleagues discriminating in such fields, lamentably, it remains but caviar for the general who reck not the historic development of the noblest of the liberal professions nor yet the achievements of our medical forebears who have wrought yeomanly therein.

The Mississippi Valley, in general, has paid but negligent heed to these informative and cultural fields, hence much is due such pioneers as Ball, Goodwin, Myer and Seelig for their efforts in our behalf.

The endeavor to direct the mind of the colleague away from himself to something very commonly better than himself, has been done longer and one better in Great Britain than with us here in the States. Yet, even so, we are deeply indebted to such as Billings, Camac, The Charaka Club, Cushing, Garrison, Osler, Packard, Welch. Nor should the need of praise be less than generous to Hoeber, whose enlightened cooperation has bulked large in this field of nonremunerative activity.

It would appear that none less than Homer has deigned to nod, as evidenced on page xl of the Foreword, in his quaint verbiage, "the Peruvian miner with his stone tools and a supply of the invigorating leaves of cocaine" (sic). It would also appear that, in subsequent editions, "Harvey (1578-1637)," page 223, should preferably be noted as Harvey (1578-1657).

An excellent and well classified bibliography is included.

This monograph is commended to those appreciative.

N. W. S.

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E. J. GOODWIN, M.D., Editor
1023 Missouri Building, St. Louis, Mo.
Telephone, Jefferson 5261.

PUBLICATION { J. C. B. DAVIS, M.D., Chairman
COMMITTEE { G. WILSE ROBINSON, M.D.
M. A. BLISS, M.D.

A RETROSPECT OF EIGHTY-THREE YEARS, CELEBRATING THE SEV- ENTY-FIFTH ANNUAL SESSION OF THE MISSOURI STATE MEDICAL ASSOCIATION*

JOSEPH GRINDON, M.D.

ST. LOUIS

In the early summer of the year 1849 there met together a group of St. Louis physicians for the purpose of issuing a call to the medical profession of Missouri, inviting them to form a State Medical Association. They were a committee of the St. Louis Medical Society, appointed for the purpose. Up to that time Missouri had not been represented as a State in the American Medical Association. The chief exponent of the project was Dr. William S. McPheeters. The others were Drs. John B. Johnson, S. Gratz Moses, George Engelmann and George Penn. In later years I became well acquainted with the first two, and can remember all but Dr. Penn.

This committee was created by a resolution adopted by the St. Louis Medical Society setting forth that:

WHEREAS, In the opinion of the Society, the time has arrived when it is both expedient and desirable to unite the medical profession of the State of Missouri for the purpose of mutual improvement and protection; be it, therefore,

Resolved, That a committee be appointed to address the regular members of the medical profession throughout the State inviting them to meet in regular convention in the City of St. Louis on Monday, the 4th day of November next, for the purpose of forming a State Medical Association with auxiliary societies in each town or county in the State.

Time will not allow me to cite the remainder of this historic document, which can be found in full in the valuable volume entitled "Medicine in Missouri" which we owe to the industry of our efficient Secretary, Dr. E. J. Goodwin,

and from which I have drawn for many facts concerning our early history.

The first meeting was held in St. Louis in November of the same year 83 years ago. Dr. W. G. Thomas, of Boonville, was elected president, and Dr. J. S. B. Alleyne, of St. Louis, secretary.

The second meeting was held in Boonville in April of 1850, Dr. McPheeters presiding. Dr. D. M. Davidson, of Cole County, presented a report on obstetrics and diseases of women and children; Dr. Joseph Nash McDowell, of St. Louis, on Surgery; Dr. M. L. Linton, one on medicine, and Dr. John Laugh-ton on medical education.

It is worthy of note that from the first our Association took a watchful interest in the all important matter of education.

The Association continued to hold annual meetings until 1858 when they were suspended on account of the conditions which led up to the Civil War. In 1867 the reorganization of the Association was accomplished, and a meeting held in St. Louis under the presidency of Dr. G. A. Williams, of Boonville. Since that time annual meetings have been held without interruption.

So that, although we are 83 years old, this is only our 75th annual meeting and may therefore be considered our diamond jubilee. (I notice how many of you are wearing diamonds in honor of the occasion.)

In 1903 a new constitution and by-laws were adopted. The work of organizing county medical societies had been prosecuted during the year 1902 and with the adoption of the new constitution in 1903 the membership increased from 300 to 1200 with forty counties in affiliation. The state was divided into councilor districts, and councilors appointed whose duty it should be to organize a local society in each of the counties included in the district.

From the first, but especially since the reorganization, this Association has been a vital factor in the preservation, development and

* Read at the 75th Annual Meeting of the Missouri State Medical Association, Jefferson City, May 23-26, 1932.

elevation of the purposes of the profession in the state. Not only so, but it has also been ever watchful of the health and interests of the people through its eunomic activities, seconding and supporting the best efforts of the state board of health, as well as often voicing its opinion on proposed state and federal legislation which concerned matters within its province, and ever taking a decided stand in favor of the highest in medical education and in the maintenance of proper standards in the matter of admission to practice.

Among its members there have always been men of eminence. To name them all would be impossible within the time allotted me. Even limiting myself to the preeminent I can do little more than recite a sort of litany.

Dr. Bernard G. Farrar, the first president of the St. Louis Medical Society, and called "the father of the St. Louis profession" died the year that this body came into existence. Had he lived, he certainly would have taken an active part in its affairs.

Dr. William Beaumont, known the world over for his investigations into gastric digestion, was transferred to St. Louis in 1833 as medical officer of the St. Louis Arsenal and remained in St. Louis until his death in 1853. In 1838 he was vice president and in 1841 presiding officer of the Missouri Medical Society,* precursor of the St. Louis Medical Society.

Dr. Charles A. Pope, a distinguished surgeon, head of the medical department of St. Louis University, was in 1854 elected president of the American Medical Association.

Dr. Joseph Nash McDowell, head of the Missouri Medical College, a skillful surgeon, an extraordinary character about whom many tales are still current in St. Louis, was as active in a political as in a professional way. He was a diamond in the rough.

Dr. William S. McPheeters, already mentioned, beloved of all who knew him, represented the highest type of the Christian physician and gentleman.

Dr. John T. Hodgen, the greatest of the Missouri profession, until today most widely known, most revered and beloved of all who have practiced in this state, was president of the American Medical Association in 1872. Although he has been in his grave a half a century he remains a living inspiration to all who were so fortunate as to know him.

Dr. Elisha H. Gregory, a truly great sur-

geon and active in the affairs of the profession, was president of the American Medical Association in 1886, and for fifty years professor of surgery in the St. Louis Medical College. He was a man of great wisdom, force and rectitude.

Dr. John W. Jackson (whose son, our Dr. Jabez Jackson, in 1926, became the fourth Missouri physician to be president of the American Medical Association) organized the first railway hospital system in the United States and in 1888 was elected the first president of the National Association of Railway Surgeons.

Dr. Gustav Baumgarten, professor of physiology, and later of the practice of medicine in the St. Louis Medical College which became the Medical Department of Washington University, was considered the leading general practitioner of his day in St. Louis. He was a thoroughly scientific man, and withal most lovable.

Dr. Louis C. Boisliniere, whose erudition was not limited to his profession, introduced the obstetrical forceps to St. Louis practice. He was a man of great force and at the same time one of the kindest and most charitable of men.

Dr. Norman Bruce Carson was a daring and yet most careful and conscientious surgeon. Modest and retiring of disposition, he was most careful in his choice of intimates. Absolutely fearless toward the strong, he was always patient and considerate toward the weak.

Dr. Henry H. Mudd was a surgeon of national reputation. He was long an associate of his relative Dr. John T. Hodgen. His memory is held in affectionate remembrance by hundreds today.

Dr. Frank J. Lutz. There is no man whose name is so entwined with the history of this Association as is that of Dr. Lutz. He was the sort of man who made bitter enemies but still more devoted friends. He took an active and often the leading part in many forward movements, and while ever deep in medical politics he could always be counted on the right side in matters of importance for the advancement of medicine.

Dr. A. W. McAlester, in 1873, organized the medical department of our State University. He was president of the state board of health for many years and always a power in the affairs of this Association.

Dr. E. W. Schauffler, of Kansas City, one of the best known physicians in this State. He served this organization as secretary and later as president and rendered it great service over a long period of years.

Dr. Greenfield Shuder, recognized the world

* The full name of the "Missouri Medical Society" was the "Medical Society of Missouri, at St. Louis" and the society was incorporated under that name in 1837. In 1851 the Legislature passed an amendment to the act changing the name of the society from "Medical Society of Missouri, at St. Louis" to the "St. Louis Medical Society." The Missouri State Medical Association did not come into existence until 1849.

over for his original work in rhinology and laryngology. As one who knew him long and well, I would say that his leading trait, outside of his devotion to science and to his art, was his unswerving loyalty to his friends.

Dr. William A. Hardaway, one of the founders of the American Dermatological Association and one of its presidents, won by his pioneer work and his introduction of electrolysis, a world-wide fame among his fellow specialists.

I know that I have omitted some names equally worthy of mention with these, but these may serve as examples of what this Association has contributed to our art. Were it in order to speak of the living one could name many the peers of those who have passed away.

And now let us hark back, and after viewing conditions as they existed eighty-three years ago, let us briefly review the development of the art and science of medicine since then.

And what stars had climbed over the horizon of science when this Association was born? There had been a steady advance since Harvey's discovery of the circulation, but we may perhaps count on the fingers of one hand the added achievements which had profoundly affected our art, namely, vaccination, anesthesia, auscultation, percussion and the use of quinine. The greater part of modern medical science was as yet undreamt. The men who formed this body possessed none of our instrumental aids in diagnosis, and but the simplest tools for treatment. The ophthalmoscope was only invented by Helmholtz in 1851, and while Pravaz the next year designed the hypodermic syringe, that valuable instrument did not come into general use in Missouri until the late 70s. Garcia introduced the laryngoscope in 1855, and we were twenty-four years old when, in 1873, Abbé made the first oil-immersion lens, and already forty-four years old when Roentgen discovered the X-ray and Finsen introduced phototherapy. The bronchoscope was unknown before 1898, while the electrocardiograph and usable apparatus for measuring blood pressure and metabolism are of yesterday.

It was the year of our birth that Addison described pernicious anemia, and the disease which bears his name, and that Marion Sims did his first operation for vesicovaginal fistula. The next year Helmholtz measured the velocity of the nerve impulse, and Waller stated the law of spinal nerve degeneration.

We were a healthy infant of two years when Claude Bernard explained the vasomotor function of the sympathetic, and eight years of age when, in 1857, von Graefe introduced the operation for strabismus.

I was born in 1858, and it would seem that that auspicious event gave science a tremendous forward impetus, for the same year Virchow published his "Cellular Pathology" and the very next year Darwin published the "Origin of Species" and Kirchhoff invented the spectroscope. We were then nine years old (going on ten).

Brand introduced bathing for typhoid the year of the outbreak of the Civil War, while Max Schulte defined protoplasm and Broca discovered the speech center in the brain. It might as well have been left in hiding for it has since been much overworked.

The year of Appomattox Gregor Mendel published his memoir on plant heredity, and Villemin demonstrated the infectiousness of tuberculosis.

We had 18 candles on our birthday cake when Lister introduced antiseptic surgery, although it was not generally taken up here until about 1877.

The bells had rung in 1868, when Wunderlich created clinical thermometry and Meyer of Copenhagen described adenoids.

Von Bergman introduced mercuric chloride as an antiseptic as late as 1877, in which year Pasteur described the bacillus of malignant edema, while the next year Koch demonstrated the causes of traumatic infections.

The Association's thirtieth anniversary was celebrated by Neisser's discovery of the gonococcus and the next year, 1880, Pasteur isolated the staphylococcus and streptococcus, and Eberth described the bacillus of typhoid, while the year after that Laveran discovered the organism of malaria and Koch introduced plate cultures.

In 1883 Tait gave a new name to Barnes' cataclysmic pelvic hematocele, and called it ruptured tubal pregnancy.

We had reached what Dante calls the middle of life's journey, namely, 35, when Koller introduced cocain. The next year appeared Weissmann's memoir on the continuity of the germ plasm, and the year after that Fitz described the pathology of appendicitis.

We had arrived at the respectable age of 40 when in 1889 Behring discovered diphtheria antitoxin, while the next year Koch introduced tuberculin.

In 1899, our golden anniversary, the Curies discovered radium, and Reed, Carroll and Lazear established the transmission of yellow fever by mosquitoes.

The first year of the 20th century witnessed Takamine's isolation of adrenalin. In 1903 Metchnikoff inoculated anthropoids with syphilis, inaugurating a startling series of scientific triumphs in the study of this disease, following

each other at two year intervals, for in 1905 Schaudinn discovered the *spirochaeta pallida*, in 1907 came the Wassermann reaction, and in 1909 Ehrlich originated salvarsan.

The wonderful progress of the last 32 years is too fresh in your minds to justify my rehearsing it here. Let me call to your attention the fact that through all these years the same untiring industry, the same devotion to science for its own sake, as well as the same readiness to serve humanity inspired the men who continued to build the temple of science in which we find shelter, although gaps in its walls still unclosed will at times admit the chill of ignorance and the inclemencies of failure. They were men whose ideals were to seek after truth, to serve suffering humanity no matter at what sacrifice, to deal truly with their fellowmen, and withal, to walk modestly, preserving that most necessary of all virtues, humility, the unfailing character of true greatness.

And these high ideals were held long before their day. They were the ideals of Hippocrates and the old Greeks, of such Byzantines as Alexander of Tralles and Paul of Aegina, of the great Arabians and of the men of the Renaissance, of Sydenham and Hunter and Jenner, of Auenbrugger and Laennec, of Beaumont, of Gross, of Hodgen, and, to borrow Osler's expression, of our Apostolic Succession, of which we are so justly proud. And these are our ideals today. It is our duty, nay our privilege, to hand them on, undiminished and untarnished, to those who soon will sit in our seats and continue our labors. Let me close with the words of the apostle St. Paul:

Let us hold fast the profession of our faith without wavering,

And let us consider one another, to provoke unto love, and to good works,

Not forsaking the gathering of ourselves together.

Lister Building.

SUPRAPUBIC PROSTATECTOMY WITH CLOSURE OF BLADDER

ALEXANDER HAMILTON PEACOCK, Seattle (Journal A. M. A.), believes that the success of primary closure of the urinary bladder depends on perfect hemostasis of the prostatic bed and good drainage by catheter. Suture of the capsule is surgically correct and can be performed by ordinary surgical skill and instruments. Primary closure of the bladder affords a shorter and more comfortable convalescence. Suture of the prostatic capsule produces better anatomic and functional results. With this method, postoperative bleeding has been practically eliminated. The sloughing postoperative wound is a thing of the past. Objections raised to closure of the bladder can be refuted by the good results of those surgeons now employing the close method of suprapubic prostatectomy.

REPORT OF NONTUBERCULOUS PATIENTS DISCHARGED FROM MISSOURI STATE SANATORIUM, JANUARY 1, 1927, TO DECEMBER 31, 1931*

E. E. GLENN, M.D.
MOUNT VERNON, MO.

It is to be expected that patients who do not have tuberculous disease in their lungs will occasionally find their way to an institution for the treatment of pulmonary tuberculosis. The general manifestations of certain nontuberculous diseases, such as fever, weakness and loss of weight, are the same as those present in pulmonary tuberculosis. Also, certain diseases, such as decompensated heart disease and sinusitis, cause localizing symptoms similar to those produced by pulmonary tuberculosis. In nontuberculous pulmonary and bronchial disease it may be impossible to rule out pulmonary tuberculosis completely unless certain special diagnostic procedures are possible. Finally, there is a group of people who may have general symptoms, such as malaise, weakness and loss of weight accompanied by slight cough and expectoration, that have no organic disease. Often they are below normal because of poor physical development or because of recent illness, such as pneumonia, typhoid or influenza. When we consider the seriousness of pulmonary tuberculosis and the much greater effectiveness of treatment when instituted before the disease is extensive, it is easy to believe that it is best to consider the doubtful cases tuberculous until proven otherwise. Especially is this true if good roentgen ray and laboratory facilities are not available. However, by emphasizing the value of the roentgen ray and laboratory procedures the importance of a thorough history and a careful physical examination must not be forgotten.

The following questions must be answered in regard to diagnosis when a patient is received at a tuberculosis sanatorium: (1) Does the patient have tuberculosis? (2) Does he have pulmonary tuberculosis? (3) Does he have nontuberculous pulmonary disease? (4) Does he have any definite disease of any nature whatever?

If the first two questions are answered in the affirmative we must continue to look for the presence of other disease so that proper treatment can be given and the effect of nontuberculous disease on the prognosis of the tuberculous disease considered. If they are

* Read before the Boone County Medical Society, Columbia, Mo., February 2, 1932.

answered in the negative we must then search further for an explanation of the symptoms shown by the patient. As stated by Brown,¹ the presence of localizing symptoms is most important in the recognition of pulmonary tuberculosis. The most important localizing symptoms are cough, expectoration, pleurisy and hemoptysis. If these symptoms are kept in mind the number of confusing conditions is greatly reduced.

This study covers all patients discharged as nontuberculous from the Missouri State Sanatorium during a five-year period beginning January 1, 1927. One hundred eighty-nine patients, or 7 per cent of all patients discharged during the period, are included in the report. One hundred seventy-four were adults or above the age of 16 years and fifteen were children.

The term "nontuberculous" may be confusing. When we state that a patient is nontuberculous we mean that he shows no evidence of recent active tuberculous disease. The patient may have never been infected with the tubercle bacillus, or he may have been infected, as is true of a large percentage of the adult population and a smaller percentage of children, and may have successfully overcome the infection. Usually, when an individual has active tuberculosis, symptoms are present, but it is necessary to remember that active tuberculosis may be present with few if any symptoms or physical signs. If the duration of the tuberculous disease is long physical signs will rarely be difficult to elicit, as will be emphasized later on in this report.

The one hundred eighty-nine cases to be discussed may be classified as follows: (1) Forty-one with nontuberculous pulmonary or bronchial disease. (2) Thirty-eight with specific disease other than pulmonary or bronchial. (3) Ninety-five with no specific disease. (4) Fifteen children who were discharged nontuberculous.

NONTUBERCULOUS PULMONARY AND BRONCHIAL DISEASE

Forty-one adults were found to have nontuberculous pulmonary or bronchial disease. I will not attempt to describe the symptoms shown by each group in detail but only give the points of greatest importance in diagnosis.

In six of these cases a diagnosis of lung abscess was made, one male and five females. The average duration of illness of the six cases at the time admitted to the sanatorium was 17 months, indicating that they were chronic. It is to be expected that chronic lung abscess will occasionally be confused with pulmonary

tuberculosis. All of these cases had an acute onset, most often following pneumonia. Physical and roentgen ray examinations on all these six cases located the disease in the lower half of the lung field with the upper third of the involved lung practically clear. It is well to remember that lesions in the upper lung field with the lower lung field clear must be proven not to be tuberculous and lesions in the lower lung field with the upper lung field clear are nontuberculous until proven to be tuberculous. Moderate to large quantities of sputum were raised by these patients. The sputum was very offensive in all cases except one, and her sputum had more odor than is usual with tuberculous sputum. Repeated sputum examinations on the six cases were negative for tubercle bacilli. Spirochetes and fusiform bacilli were found in the sputum of three of this group. Lipiodol was injected into the diseased lobe in four of these cases. In three instances a so-called "negative shadow" was obtained, the lipiodol not entering the abscess cavity because of bronchial obstruction. In the other case lipiodol entered the abscess cavity. We have been able to follow-up all of these patients. Three report that they are in good health, two are in poor health and one died following an operation. The two who are at present in poor health left the sanatorium during the past year.

Fifteen cases of bronchiectasis were discharged during the five-year period, five males and ten females. The history of these cases gives their average duration of illness as forty-six months, or almost four years. The shortest duration was five months and the longest was two hundred four months. The onset was considered to be acute in seven of these cases and insidious in eight. It must be realized, however, that it is often difficult to obtain the exact nature of the onset of the illness from the patient when it is of several years' duration. Six of those considered to have had an acute onset were told by their physician that they had influenza at the time their illness began. One had coughed since she had measles 39 months before admission.

It was quite difficult for the patient to determine the time of onset in the cases in which the onset was classified as insidious. The cough and expectoration were scarcely noticeable at first and then became marked and other symptoms appeared. Cough with profuse expectoration and streaked sputum were the chief complaints most often given. Five of the patients at some time during their illness had frank hemorrhage. These five together with six others often had blood-streaked sputum. The well known fact that hemoptysis is very

often present in bronchiectasis is hereby substantiated.

The physical findings were often few and difficult to elicit in these cases, even when the disease was marked. The signs most often elicited were medium or coarse, moist rales in one or both bases with decrease and harshness of breath sounds over the same area. Often rhonchi and squeaks were present. The roentgen ray usually showed a mottled infiltration near the diaphragm or a homogeneous density in the base. If lipiodol was injected the dilatations of the bronchi were outlined. Lipiodol was injected into the diseased bronchi in all but three cases. All but four of these patients raised large amounts of sputum, usually several ounces daily. The other four raised only a small amount of sputum, 5 to 30 c.c., in twenty-four hours. It was repeatedly negative for tubercle bacilli. Fusiform bacilli and spirochetes were found in eight of these cases by using the Fontana technic of staining. They were not looked for in six cases. Although the sputum of these cases was usually foul it did not have the putrid odor of sputum from lung abscess or pulmonary gangrene. We have been able to follow-up ten of these patients; one reports she is in good health, three in fairly good health, four in poor health and two are dead. One of these patients was thought to be tuberculous after having been discharged by a physician, who reported that tubercle bacilli were present in her sputum. She was readmitted and many sputum examinations were negative for tubercle bacilli, but spirochetes and fusiform bacilli were found. She showed no other positive signs of tuberculosis. This patient has been heard from recently, almost two years after being discharged the last time. She reports she is in fairly good health. Another patient who was discharged almost four years ago reports she is in poor health. She states that her physician thinks she has tuberculosis. She has had no roentgen ray or sputum examination since leaving the sanatorium. She had a classical case of bronchiectasis. The chief points relied upon for making a diagnosis in these cases were the history of long duration, large amounts of sputum repeatedly negative for tubercle bacilli and the roentgen ray appearance after the injection of lipiodol into the bronchial tree.

Six cases of bronchial asthma are included; three males and three females. The average duration of illness from history was 20 months. However, some of these patients gave evidence of light attacks of asthma several years before. The onset in this group was usually insidious, the attacks gradually in-

creasing in severity. In one case the onset was acute with influenza and in another the first symptom of asthma was a severe attack. After having these patients under observation for several days the presence of bronchial asthma could hardly be mistaken. However, it is necessary to rule out other disease and determine the causative factor if possible. The roentgen ray findings were indefinite. Usually the hilar shadows were increased in size and the peribronchial markings were increased. Usually only a small amount of sputum was raised which was stringy and mucoid and repeatedly negative for tubercle bacilli. Three of these patients have been heard from recently. One of them reports that she is in good health and no longer has asthmatic attacks. Two men report that the attacks continue and that they are in poor health.

Three cases were classified as chronic bronchitis. Their average age was 44.2 years which is more than the average of any other group studied. All were men. They complained chiefly of cough, expectoration and streaked sputum. The sputum was repeatedly negative for tubercle bacilli, but spirochetes and fusiform bacilli were present in the sputum of one patient. The physical signs were indefinite but most often decrease of breath sounds was reported in the bases together with large moist rales and musical rales. The roentgen ray showed a peribronchial thickening and an enlargement of the hilar shadows. Lipiodol injection on two of these showed no bronchial dilatations. One of them had not worked for more than three years although he said he had not been sick but 30 months. He gave a history of intemperate drinking which was thought to be the chief etiological factor. One of the remaining two was a farmer and the other a plumber. It was thought that the dust and poor surroundings in which they worked were chiefly responsible for their condition. One of these, the drinker, has recently been heard from and reports he is in good health.

Nontuberculous empyema was responsible for a presumptive diagnosis of pulmonary tuberculosis in four cases. One of these a man, aged 43, had pneumonia followed by empyema seven years before admission. The empyema was drained at that time by a thoracotomy. His recent complaints were weakness, dyspnea, chest pain, cough and streaked sputum. A dense homogeneous shadow was shown by the roentgen ray in the right lower where the empyema had been. No fluid or pus could be obtained by aspiration in this location. A fine mottled infiltration was scattered throughout both lungs, indicating the presence

of silicosis. Earlier in his life he had been a miner for several years. He also had a hypertension with a systolic pressure of 212 mm. and a diastolic pressure of 160 mm. It was thought that the combination of the circulatory disturbance and silicosis was chiefly responsible for his disability. A boy, aged 17, had pneumonia four months before admission followed by an encapsulated empyema. No fluid or pus could be obtained by aspiration. He was not toxic and gained weight and strength rapidly during the fifty-five days he remained at the sanatorium. A recent report indicates he continues to be in good health almost four years after being at this institution. A man, aged 32, gave a history of a gunshot wound of the left chest eighteen months before admission. He had expectorated large amounts of thin pus for several months. He had an empyema with a bronchopleural fistula. He refused to have a drainage operation. I have learned indirectly that he lived only a few months after leaving this institution. A woman, aged 34, had an empyema with a bronchopleural fistula. She gave a history of having had pneumonia nine months before admission. She had been toxic since the pneumonia and for the last three months expectorated large quantities of pus. She was extremely toxic when admitted to this institution. A thoracotomy was done in such a way that air could not enter around the drainage tube, and the end of the drainage tube immersed in a basin of water. The drainage soon stopped and the lung reexpanded. A recent follow-up, more than three years after the operation, indicates that her health continues to be good.

A boy, aged 20, had a chronic interstitial pneumonia. He gave a history of an insidious onset two years before admission, with cough, expectoration and streaked sputum. Occasional moist rales scattered through the left lung with harsh decreased breath sounds and slight impairment of resonance were the most outstanding physical findings. The roentgen ray showed a fibrous infiltration throughout the left lung with only a slight displacement of the mediastinum toward the affected side. The roentgen ray findings of this condition have been described by Sante.² The sputum was scant, mucoid and negative for tubercle bacilli. He was sent to the sanatorium while convalescing from typhoid. A recent report indicates he is in fairly good health.

Two cases of silicosis without evidence of tuberculous disease in their lungs were seen. One of these was a teamster, sixty-five years of age, but formerly spent many years as a miner in eastern Missouri. He complained chiefly of dyspnea, weakness and pain in epi-

gastrium one or two hours after meals. There were no rales in either lung, but breath sounds were rough and the percussion note was impaired, especially posteriorly. Only small amounts of mucoid sputum were raised which was repeatedly negative for tubercle bacilli. The roentgen ray showed a fine light irregular mottling throughout both lungs with much enlargement of the hilar shadows. The patient died after remaining at the sanatorium forty-one days. Postmortem examination showed the presence of silicosis but no tuberculous lesions could be found. The heart was greatly hypertrophied and the muscle fibers showed degeneration. A large ulcer was found on the lesser curvature of the stomach. A diagnosis of silicosis was made in a colored man, aged 35, who had worked several years in a brick factory. He complained chiefly of cough, dyspnea and weakness. Roentgen ray showed the fine mottling characteristic of silicosis. His sputum was repeatedly negative for tubercle bacilli and occasionally blood streaked. We have not heard from him since he was discharged two years ago.

Four cases of primary pulmonary malignancy are included in the group of cases with nontuberculous pulmonary disease, three males and one female. These patients were all extremely weak and cachectic and three were very toxic with a marked elevation of temperature. One of these, a male fifty-four years of age, had an acute onset with what was thought to be influenza. After the acute attack he did not regain his strength and continued to cough. The onset was insidious in the other three cases. The average duration in these cases was four and one half months, the shortest duration being three months and the longest seven months. The most frequent complaints were weakness, cough and chest pain. The most evident physical findings were dullness, alteration of breath sounds, usually a decrease or absence of breath sounds, and moist rales. Three of these cases raised large amounts of sputum the other a moderate amount of sputum, which of course was repeatedly negative for tubercle bacilli. Two of these cases frequently had streaked sputum and one had rather large hemorrhages before admission. Fluid present in the pleural cavity in two cases was serosanguineous when removed. The roentgen ray findings varied greatly. Large amounts of fluid were present in the pleural cavity on the affected side in two cases so that the lung field could not be visualized. One case had massive atelectasis of the lung because of pressure by the tumor on the main bronchus. When the fluid was removed and replaced by air in the two cases with effusions,

and when air was put into the pleural cavity of the case with atelectasis, the tumor mass could be seen as a dense homogeneous area of infiltration. In two cases the tumor mass was in the lower lung field and in two cases in the upper lung field. The right lung was affected in two cases and the left in two cases. The tumor was located in the upper right in the case that had no effusion and it showed a well-outlined convex lower border. Three of these patients are known to be dead. An autopsy was performed on one of them and the diagnosis of primary carcinoma of the lung confirmed. A metastasis into the liver was found. He lived about nine months after the first symptom appeared. The only female in the group was twenty-one years of age. This is an early age for a carcinoma to occur, but diagnosis was confirmed by biopsy on an axillary gland which showed carcinoma cells. This patient lived about two years after the first symptoms of the disease appeared. Another man, aged 43, died about ten months after the first symptoms appeared. Indirectly, we are informed that the other patient is now in very poor health. He was discharged from this institution a year ago. Condensed information concerning this group with nontuberculous pulmonary and bronchial disease is recorded in table 1:

NONTUBERCULOUS DISEASE OTHER THAN PULMONARY OR BRONCHIAL

Thirty-eight cases with nontuberculous disease other than pulmonary were discharged during the five-year period. No attempt will be made to discuss the different types of disease encountered, except to point out the symptoms and signs which were most likely responsible for the patients having been told they had pulmonary tuberculosis.

Six cases showed evidence of organic heart disease. Four of these had myocarditis and two had valvular lesions. All were partly decompensated. All complained of dyspnea and cough, one raised large quantities of bloody sputum and three others had streaked sputum. Four complained of their cough being worse at night, which is different from the tuberculous patient who most often coughs more in the early morning. Physical examination of the lungs frequently revealed the presence of moist rales which were due to pulmonary edema. The most significant roentgen ray finding was the enlarged heart shadow accompanied by the increased size of the hilar shadows, the latter being due to enlargement of the pulmonary vessels. Four of these cases are known to be dead. One died after being at the sanatorium three days. Two of the cases have not been heard from.

Table 1. *Nontuberculous Pulmonary Disease*

Diagnosis	No. of Cases	Average Age	Sex	Family History		Onset	Most Frequent Chief Complaint	Average Duration of Illness, Months	Average Loss of Wt., Lbs.	Average Days at San.	No. Autopsies	Follow-Up			
				Pos.	Neg.	Acute						Good	Fair	Poor	Dead
Lung Abscess	6	30.7	1	1	5	6	Cough, weakness	17	13.5	124.1	6	3	1	2	1
Bronchiectasis	15	27.9	5	3	12	7	Cough, streaked sputum	46	16.4	106.	10	1	3	4	2
Asthma	6	27.4	3	1	5	2	Cough, dyspnea	20	22.4	54.4	3	1	1	2	
Chronic bronchitis	3	44.2	3	1	2	3	Streaked sputum	24	10.3	33	1	1	1		
Empyema	4	31.2	3	1	4	4	Cough, chest pain	10	18.1	49.1	2	2			
Silicosis	2	59	2	1	1	2	Cough, chest pain	15.5	17.5	64.5	1				1
Chronic interstitial pneumonia	1	20	1	1	3	1	Cough, chest pain	24		15	1		1		
Pulmonary malignancy	4	42.3	3	1	1	3	Weakness, cough, chest pain	4	19.1	66.2	3				3

Two cases, in which hypertension was the only abnormality found, gave histories of insidious onsets about two years before admission; both were females. The chief complaint of both of these patients was weakness. The systolic pressure of both was below 200 mm. and the diastolic pressure above 100 mm. One was 48 years old, the other 29 years. Both report they are in fairly good health at this time. It is interesting to note that pulmonary tuberculosis is rarely found in the presence of hypertension; on the other hand, a tuberculous patient almost always has a low blood pressure.

Five patients showed findings sufficient to warrant a diagnosis of sinusitis. The frontal sinus was involved in all five cases. Two gave a history of an acute onset with influenza, while the onset was insidious in three cases. The average duration of illness was twelve months. All complained of headache, but the symptoms that caused a diagnosis of tuberculosis to be made were most often cough and streaked sputum. One patient expectorated an ounce or more of blood but she showed evidence of bronchiectasis in the left base. Another showed bronchiectasis of the left lower also. These two cases are considered under the heading of sinusitis because the sinusitis produced most of the symptoms complained of and because the sinusitis was thought to be the cause of the bronchiectasis. Three of these patients have recently been heard from and report they are in fairly good health.

One patient, a woman, aged 25, had a scoliosis of the thoracic spine which had been present since childhood. She had no complaint except weakness. Physical and roentgen ray examinations of the chest were negative. She did not cough nor raise sputum. She was feeble-minded.

Three patients, all females, showed evidence of hysteria. Their average age was 24.1 years. In two cases the onset was gradual, but in the other case the symptoms had persisted since an attack of pyelitis and cystitis twenty months before admission to this institution. All showed changing areas of anesthesia scattered haphazardly over the body, most often over the chest and abdomen. There was evidence to indicate that two of these patients made their thermometers register high by placing them on a hot water bottle or in hot water.

Each complained of streaked sputum, but it could seldom be demonstrated and then seemed to come from the gums or other parts of the mouth. Each patient complained of practically all of the subjective symptoms ever present in pulmonary tuberculosis. Tuberculosis was difficult to rule out in these cases as can be seen by the fact they remained in the sanatorium an average of one hundred ten days.

These patients have all been heard from recently. Two report they are in fair health and one reports she is in poor health.

A woman, aged 22, had spastic colitis. She was of a very neurotic disposition. She had streaked sputum at times and at first it was thought slight apical infiltration was shown by the roentgen ray of her chest, but repeated films proved that no infiltration was present. Her temperature was elevated one and one half degrees by the subcutaneous injection of .1 mg. of old tuberculin. Shifting areas of anesthesia were present over the entire body which we considered to be indicative of a functional nervous disturbance. She has not been heard from since she was discharged nearly three years ago.

One girl, aged 20, had chronic constipation which seemed responsible for the symptoms manifested which caused a diagnosis of pulmonary tuberculosis. Her chief complaints were weakness and nervousness. Intracutaneous tuberculin test negative to 1 mg.

Six patients had syphilis as proved by repeatedly positive Wassermann or Kahn tests. Two of these were males, four females. Their average age was twenty-seven years. The chief complaint most often given by this group was weakness. One patient, a colored man, aged 28, had a syphilitic lesion in his larynx. A woman, aged 27, and a boy, aged 19, had syphilitic iritis. The remaining three patients had no specific lesions. They complained of chest pains and general body pains. Antiluetic treatment was advised in all these cases when they were discharged. Only one of them has been heard from recently and she reports she is in good health.

Two patients were suffering from hyperthyroidism. One, a boy, aged 17, with a basal metabolic rate 32 per cent above normal, and a woman, aged 27, whose basal metabolic rate was 18 per cent above normal. Both patients complained of weakness and nervousness and slight cough. Both had a slight elevation of temperature and a rapid pulse. Both gave no reaction to 10 mg. tuberculin injected subcutaneously.

One patient, a woman, aged 25, had definite findings of a gastric ulcer on the lesser curvature of the stomach. Weakness, dyspnea and streaked sputum were the symptoms which caused pulmonary tuberculosis to be considered as their cause. The blood was vomited. A man, aged 34, had pain in the epigastrium, about one or two hours after eating, that was relieved by soda. He had a hemorrhage of several ounces before admission but vomited the blood. A presumptive diagnosis of gastric ulcer was made. He would not remain at the sanatorium for a complete diagnosis.

A female aged 30 had a large tumor in the left abdomen of medium consistency and irregular shape. A nodule of the same consistency was present in the left supraclavicular fossa. The patient was extremely cachectic and was losing weight rapidly. The blood picture was normal except for a secondary anemia and a slight increase in the percentage of the polymorphonuclears. It was thought the tumor was a lymphosarcoma of the spleen. The patient would not remain at the sanatorium for further observation.

A white woman, aged 22, and a colored woman, aged 23, entered the sanatorium complaining chiefly of weakness, nausea and vomiting. Both had slight cough, and one thought streaks of blood had been present in her sputum. One had missed two menstrual periods and the other three. Both were found to be pregnant. The white woman has recently been heard from and reports she is in good health.

Four females had pelvic disease. Each gave a history of an insidious onset with an average duration of eighteen months. While each complained of cough, the cough was slight with little if any sputum. The most important symptoms were weakness and loss of weight. Each had salpingitis and one had involvement of other pelvic organs. Two of these patients have recently been heard from. One reports she is in good health following a pelvic operation and the other reports she is in fair health after having an operation.

A white woman, aged 21, was admitted after having a diagnosis of spasm of the left ureter made by a urologist. It was thought that she had pulmonary tuberculosis also but no localizing signs were present. A recent report indicates her condition has not changed. No local or focal reaction to 10 mg. of tuberculin subcutaneously.

A colored woman, aged 24, had a characteristic case of pellagra. She complained chiefly of chest pain and pain and stiffness of her joints. The onset was insidious. She was a school teacher and had been eating improperly. She remained at the sanatorium for 35 days and showed much improvement after being placed on the proper diet.

Condensed information concerning this group is recorded in table 2.

NO SPECIFIC DISEASE

More than half of the patients discharged as nontuberculous during the five-year period had no specific disease that could be localized during the time they were under our observation. Some of these patients remained at the sanatorium only a few days so it was not possible to study their cases thoroughly. Ninety-five patients are included in this group.

Table 2. Nontuberculous Disease Other Than Pulmonary

Diagnosis	No. of Cases	Average Age	Sex	Family Pos.	History		Onset	Most Frequent Chief Complaint	Average Duration of Illness, Months	Average Loss of Wt. Lbs.	Average Days at San.	No. Ans.	Follow-Up		
					Pos.	Neg.	Acute						Good	Fair	Poor
Hysteria	3	24.1	M	1	2	1	1	Streaked sputum, weakness	22.1	15	110.2	3	2	1	1
Spastic colitis	1	22	F	1	1	1	1	Streaked sputum, constipation	54	18	280	1	1		
Chronic constipation	1	20	F	1	1	1	1	Nervous, weakness	18	17.1	22	1	1		
Heart condition	1	33.4	M	1	6	6	2	Hemorrhage, pain	22.4	16	19.1	4	2		4
High blood pressure	2	38.1	M	2	2	2	2	Weakness	24	10.5	18	2	1		
Syphilis	6	27	M	3	3	2	4	Cough, weakness	26	6.2	51.1	1	1		
Toxic goiter	2	21	F	1	2	2	2	Weakness	24	10	27	1	1		
Gastric ulcer	2	29.1	M	2	1	1	2	Weakness	4	18	41.5	1	1		
Abdominal tumor	1	30	F	1	1	1	1	Weakness	4	40	17	1	1		
Pregnancy	2	30	F	2	2	2	2	Weakness	3	10	33	1	1		
Pelvic condition	4	25.3	F	1	3	3	4	Cough, weakness	18	19.1	24	2	1		
Spastic ureter	1	25	F	1	1	1	1	Abdominal pain, weakness	10	2	28	1	1		
Spinal curvature	1	21	F	1	1	1	1	Weakness	4	7	8	1			
Pellagra	1	24	F	1	1	1	1	Chest, joint pain	30	22	35	1			
Sinusitis	5	40.1	M	2	3	3	2	Cough, streaked sputum	12	6	100	3	3		

It was found that in general this group was constituted of two classes. In one class the patients usually gave a history of a short duration of illness with almost always some specific cause for the symptoms they manifested, which resembled those of pulmonary tuberculosis. Usually they gave a history of a recent acute illness, such as pneumonia, influenza or malaria, or they had overworked themselves, had been subject to dissipation, or had some family or personal worry which had prevented them from taking proper care of themselves. The other class usually gave a history of long duration of illness, or if the duration of illness was short they stated they had not been in good health for a much longer period. The patients in this group usually had an asthenic or hyposthenic habitus and often were of a neurotic temperament.

An arbitrary division of this group of cases with no specific disease into two subgroups, one with a history of duration of illness of four months or less and the other with a history of duration of illness of more than four months, separates these two classes of patients fairly well. The former will be referred to as subgroup 1 and the latter as subgroup 2.

In subgroup 1 we find twenty-three patients; in subgroup 2 seventy-two patients. Six, or 26 per cent of subgroup 1, gave a history of an acute onset and ten, or 13.8 per cent, gave a history of an acute onset in subgroup 2. The average duration of illness as given by subgroup 1 was three months; 25.7 months, or more than two years of subgroup 2. The patients in subgroup 1 had lost an average of 6.3 pounds in an average time of three months. The patients in subgroup 2 had lost an average of 10.5 pounds in 25.7 months. There were 13 males and 10 females in subgroup 1, while there were 24 males and 48 females in subgroup 2. The average age of subgroup 1 was 26.9 years and 31.9 years in subgroup 2.

The patients of the entire group gave as their chief complaint cough and weakness; several also complained of chest pain. On close questioning and observation we practically always found their cough was slight and the amount of sputum raised small and usually clear. The sputum when present was repeatedly negative for tubercle bacilli. None of the patients gave definitely positive physical signs and there was no abnormal condition of the lungs, as shown by stereoroentgenograms.

Forty-one of these patients have been heard from recently. Twenty-three report they are now in good health and eighteen report their health is only fair. Three of these patients were diagnosed pulmonary tuberculosis after leaving the sanatorium. One of these was readmitted and kept under observation for

several weeks. She showed no reaction to 10 mg. of tuberculin injected subcutaneously and was again discharged as nontuberculous. Another of the three came back to the sanatorium for an examination but no evidence of active tuberculous disease could be found. The other patient reports that his physician has told him he has tuberculosis but he has had no roentgen ray or sputum examination. He reports his condition is about the same as when he was here more than a year ago.

It is of interest to compare the patients in this group, especially those in the subgroup with a duration of illness of more than four months, with patients who have far-advanced tuberculous disease in their lungs. To make this comparison, the records of one hundred cases of far advanced pulmonary tuberculosis were tabulated in the same manner as the nontuberculous cases. The records of these tuberculous cases were taken from our files and selected in no way except that none but far-advanced cases 16 years of age or older were taken. The case records are filed according to number without reference to sex. In this manner the records of 36 males and 64 females were used in making the tabulations. This corresponds fairly well with the ratio of males to females in this institution. The average age of these patients was 28.9 years, which is about the same as the average of the group being considered that had no specific disease. Forty per cent of the patients with advanced tuberculosis had a positive family history for tuberculosis compared to 34 per cent for the group of nontuberculous patients. At first thought it may seem that one who has tuberculosis in the family is not as likely or no more likely to have tuberculosis than the one with a negative family history. However, when we consider that less than 1 per cent of the general population has active tuberculous disease it is evident that one with a positive family history is much more likely to develop active tuberculosis. The high percentage of positive family histories in the nontuberculous cases discharged is accounted for by the fact that a positive family history is often, and rightfully so, a determining factor in the diagnosis of tuberculosis. Further study shows that the onset was acute in 46 per cent of the cases of far-advanced pulmonary tuberculosis compared to an acute onset in 13.8 per cent of the cases with no specific disease and a duration of more than four months. The average duration of illness for the group with advanced tuberculous disease was 12.8 months compared to the average duration of illness of 19.4 months for the entire group with no specific disease and 25.7 months for the cases in this group with a duration of more than four months. The one hundred tuberculous cases

lost an average of 17.1 pounds compared to an average loss of 9.7 pounds for the patients who had no specific disease. It seems evident that if far-advanced pulmonary tuberculosis has on the average a shorter duration than the symptoms shown by these patients that show no positive findings by careful roentgen ray, physical and laboratory examinations, the latter group of patients should not be easily confused with the former.

It is my opinion that we will rarely be mistaken in ruling out active pulmonary tuberculosis if there is a history of a duration of illness of one year or more and no physical signs or roentgen ray findings that cannot be easily recognized. I believe this study of cases and comparison of nontuberculous with tuberculous cases lends considerable support to this opinion. A patient continuously ill with pulmonary tuberculosis for one year or more will show considerable lung involvement. The above, of course, applies only to the adult type of tuberculosis.

NONTUBERCULOUS CHILDREN

Fifteen children were discharged during the five-year period as nontuberculous. Six of these showed evidence of nontuberculous pulmonary or bronchial disease. One boy, aged 11, with a negative family history, had an abscess in the left upper lobe of more than two years' duration following a chest injury. The chief diagnostic points relied upon in this case were the roentgen ray findings and large amounts of sputum being repeatedly negative for tubercle bacilli. Although he gave a one plus reaction to .1 mg. of tuberculin injected intracutaneously, we were of the opinion that the process was not tuberculous. Improvement was shown with rest and postural drainage, although the prescribed treatment was not closely followed. A recent report, two years after the patient was first seen, indicates he is in good health except for a cough when he has a cold. A girl, aged 14, with a negative family history, had pulmonary gangrene. She gave a history of onset with influenza, more than three years before admission. She had been acutely ill three months. The right lower and middle lobes were densely infiltrated with many small cavities throughout the diseased area. The sputum was extremely foul and many spirochetes and fusiform bacilli were present, but no tubercle bacilli could be found by frequently repeated examinations. Because of her extremely toxic condition and hemoptysis, an artificial pneumothorax was established but without beneficial effect. She died 57 days after entering the sanatorium. A boy, aged 15, with a negative family history, had bronchi-

ectasis and gave a history of having had a cough since birth. Infiltration was present in the left base and lipiodol injected into this area showed large saccular dilatations. Large amounts of sputum with an unpleasant odor were raised by the patient which were repeatedly negative for tubercle bacilli. There was no reaction to 1 mg. of tuberculin injected intracutaneously. He showed some improvement with bed rest and postural drainage. A boy, aged 14, with a positive family history for tuberculosis, had asthma. He gave a history of having had attacks of paroxysmal dyspnea for an indefinite period. The attacks were usually more severe during the winter months. A roentgenogram of his chest showed only peribronchial thickening and slight enlargement of the hilar shadows. Intracutaneous tuberculin test negative to 1 mg. This patient has not been heard from since he left the sanatorium more than a year ago. A boy, aged 13, with a negative family history, had thickened pleura in the left lower, because of a pleural effusion he had during an attack of pneumonia three months before admission to this institution. His only complaint was weakness. Intracutaneous tuberculin test repeatedly negative to 1 mg. After remaining on rest for more than three months he returned home completely recovered from the effects of pneumonia. A girl, aged 7, with a negative family history, had a chronic nontuberculous infiltration in both lower lobes. Medium and coarse moist rales were present in both bases. The roentgen ray showed areas of infiltration extending downward from each hilar shadow. This infiltration did not appear to be tuberculous. This condition has been accurately described by McPhedran.³ The intracutaneous tuberculin test was negative to 1 mg. This patient has not been heard from recently.

Three children were discharged with nontuberculous disease other than pulmonary. A girl, aged 12, with a negative family history, had a chronic endocarditis with involvement of the mitral and aortic valves. The heart was greatly enlarged and compensation was not complete at the time she was admitted. Sputum when present was sometimes blood streaked and negative for tubercle bacilli. Although her condition was recognized as being nontuberculous at the time she was admitted she was allowed to remain at the sanatorium for more than a year. She was much improved when discharged. We have been unable to learn the outcome of her case. She left the sanatorium more than four years ago. A girl, aged 15, with a negative family history, had frontal sinusitis. She had a slight cough with streaked sputum. Physical and roent-

gen ray examinations of the chest were negative. After having her under our observation for several months it was decided the streaked sputum came from the postnasal space. Intracutaneous tuberculin test repeatedly negative to 1 mg. A recent report indicates she is in fairly good health but continues to receive treatment for the sinus disease. A girl, aged 13, with a negative family history, entered the sanatorium after a diagnosis of diabetes mellitus had been made. It was thought she had active childhood tuberculosis also. The intracutaneous tuberculin test was repeatedly negative to 1 mg. The roentgen ray showed no evidence of recent tuberculous infection.

Six children, all females, were discharged who showed no evidence of tuberculous or nontuberculous disease. The factors that were most often responsible for these children being termed tuberculous were underweight and positive family history. Three were an average of 21 pounds underweight, and the other three were normal weight when their height, sex and age were considered. Three of these children had a family history positive for tuberculosis; one of the three had no contact with her tuberculous father who died before she was born. The family history of the other three children was negative for tuberculosis, but one had been in contact with cousins known to have open pulmonary tuberculosis. Follow-up has been successful in only two of the six cases; one, aged 14, reports she is in good health and the other, aged 10, is reported to be in fairly good health.

At first thought it may seem that more children would have been discharged from the sanatorium as nontuberculous. The majority of children admitted to a preventorium or sanatorium are from tuberculous families and show evidence of tuberculous infection, as is shown by the tuberculin test and roentgen ray. As children who have a tuberculous infection can have been infected only a few years, and the infection may be recent, they are classified as having childhood tuberculosis when admitted. If it is questionable as to whether or not they have activity they are kept under observation for a few months and discharged as inactive or arrested.

The diagnostic factors of most importance in this group are the tuberculin test and the roentgen ray examination. We believe that the Mantoux or intracutaneous tuberculin test is the most reliable in recognizing tuberculous infection. Our routine has been to give .01 mg. of old tuberculin intracutaneously and if there is no reaction after forty-eight hours, .1 mg. is given. If there is no reaction to the .1 mg.

after forty-eight hours, 1 mg. is given. If the 1 mg. dose is repeated without any reaction we can say with a small likelihood of error that no active tuberculous infection is present, providing we are certain that the tuberculin we are using is potent. The cutaneous or von Pirquet test is also of value in the recognition of active tuberculous infection. The value of tuberculin in the recognition of childhood infection has been proved by the extensive work of Hetherington, McPhedran, Landis and Opie,⁴ Chadwick,⁵ Dickey and Setz,⁶ Karns,⁷ McCain,⁸ and others. If the child shows a positive reaction to tuberculin a careful study of a good roentgenogram of the chest is necessary to determine the diagnosis. Physical examination is usually of little value in the diagnosis of childhood tuberculosis.

SUMMARY

1. One hundred eighty-nine patients were discharged from the Missouri State Sanatorium as nontuberculous during a five-year period beginning January 1, 1927.

2. Forty-one of these had nontuberculous pulmonary or bronchial disease, which were further classified as follows: six, lung abscess; fifteen, bronchiectasis; six, bronchial asthma; three, chronic bronchitis; four, nontuberculous empyema; one, chronic interstitial pneumonia; two, silicosis, and four, primary pulmonary malignancy.

3. Thirty-eight had specific disease or abnormalities other than pulmonary or bronchial. Eight of these had cardiac or circulatory disease, five had sinusitis and six had syphilis. The remaining nineteen patients in this group were classified as hyperthyroidism, hysteria, scoliosis of the thoracic spine, gastric ulcer, chronic constipation, spastic colitis, spasm of ureter, abdominal tumor, pregnancy, pelvic disease and pellagra.

4. Ninety-five, or more than half of the entire group, had no specific disease or abnormality. These patients often had an asthenic or hyposthenic habitus, gave a history of long duration of illness and were often of a neurotic temperament. A smaller number in this group gave a history of a short duration of illness and the symptoms complained of were due to a more or less specific cause, such as a recent acute illness, overwork or worry. A study of these cases and comparison of them with cases of far-advanced pulmonary tuberculosis indicates that if a patient gives a history of duration of illness of one year or more and no definite abnormalities can easily be found in the lungs by physical and roentgen ray examinations, he does not have active pulmonary tuberculosis.

Table 3. Summary of All Adult Cases

Classification	No. of Cases	Sex		Family History		Onset	Most Frequent Chief Complaint	Average Duration of Illness, Months	Average Du- ration of Ill- ness, Months	Average Loss of Wt. Lbs.	Average Days at San.	No. Ans.	Follow-Up			Dead
		M	F	Pos.	Neg.	Acute							Good	Fair	Poor	
Nontuberculous pulmo- nary disease	41	21	20	9	32	20	21	19.6	15.6	68.6	27	27	9	3	8	7
Disease not pulmonary,	38	8	30	10	28	7	31	18.8	12.5	54.2	19	19	3	11	1	4
No specific disease	95	37	58	28	67	16	79	19.4	9.7	39.5	41	41	23	18		
Far-advanced pulmo- nary tuberculosis	100	36	64	40	60	46	54	12.8	17.7							

5. Fifteen children were discharged as non-tuberculous during the five-year period. Six of these had nontuberculous pulmonary or bronchial disease, three had disease other than pulmonary or bronchial and six had no specific disease. The most important procedures in the diagnosis of childhood tuberculosis are the tuberculin test and the roentgen ray examination of the chest.

6. While we have been unable to follow-up all cases discharged as nontuberculous, we have not obtained any evidence to indicate positively that any patient discharged as nontuberculous has later developed pulmonary tuberculosis.

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INCIDENCE OF SYPHILIS IN PRIVATE PRACTICE

Edgar F. Kiser and C. B. Bohner, Indianapolis (Journal A. M. A., May 7, 1932), analyze their observations in 2,872 consecutive examinations made from Sept. 1, 1925, to Jan. 1, 1932, on private patients who came to their offices for physical examinations. They were of the well-to-do and middle class in about equal proportions. All were white. There were 1,084 men and 1,788 women. The individual occupations are not recorded, but a cross-section of the group would represent in occupation, wealth and social position an average practice recruited from the so-called upper social strata. None came primarily because of known syphilis; in fact, none had primary lesions at the time of our examination and only two had secondary manifestations. Blood Wassermann and Kahn tests were made as a routine on each patient in the series. The work was done in a commercial laboratory, all tests were made by a single technician, a man regarded by the physicians of the community as being entirely dependable. In every instance the complement fixation was done by the Kolmer method, as well as with cholesterolized and alcoholic antigens. No reaction was reported as four plus unless the blood reacted so with all three antigens and showed a four plus Kahn reaction as well. Of the 2,872 patients 105, or 3.65 per cent, responded with such a straight four plus reaction. Sixty-six of the 105 patients were males—an incidence of 6.08 per cent of the 1,084 men in the series; 39 were females—an incidence of 2.18 per cent of the 1,788 women examined.

THE CORRECTION OF VESICAL NECK OBSTRUCTIONS BY MEANS OF THE RESECTOSCOPE*

NELSE F. OCKERBLAD, M.D.

KANSAS CITY, MO.

About one hundred years ago an English army surgeon named George James Guthrie invented an instrument, which was really a catheter with a concealed knife blade, by which he could incise a prostatic bar or obstruction at the bladder neck. Guthrie served in the War of 1812 and was attached to Wellington's Army in 1815 and operated on the battlefield of Waterloo. As far as we have any record this was the first instrument to be used in attempting to relieve the obstruction that occurred because of a bar or prostatic middle lobe.

Mercier, a contemporary French surgeon, devised an instrument for the same purpose in 1837 and his instrument was called by Gouley the prostatome. Mercier's instrument was a punch instrument, the very first of the punch instruments, and while Guthrie's instrument was intended to incise a band or bar Mercier's instrument was intended to be used for the removal of bits of tissue, punched out, so to speak. Mercier's instrument is unquestionably the grandfather of all the host of punch instruments while Guthrie's idea has been brought forward from time to time in instruments that incise, such as Bottini's, Colling's, Foley's, Kirwin's and others. Neither Guthrie nor Mercier lived to see their devices of any practical use. Electricity was still a form of magic or a laboratory curiosity.

Bottini in 1873 invented a galvanocautery with a movable blade that could be heated by electricity and repeated cuts could be made through the enlarged and obstructing prostate. The main claims for Bottini's operation were, that by this closed method cuts were made through the adenomatous gland and the patient was relieved of his obstruction, the gland gradually shrank down and a cure resulted. This operation had a tremendous vogue for a time until, according to Keyes,¹ Freudenberg reported that almost all of the cases that had been reported as relieved had actually relapsed.

Chetwood modified the Bottini operation and also the instrument and used it through a perineal incision. Keyes¹ says: "I operated upon seventy-five cases by the Chetwood operation and ten years later found that almost all had relapsed."

The discovery and first description of the prostate gland was by Nicola Massa, a Venetian physician who died in 1563. Riolanus

about the middle of the sixteenth century was the first to suggest that the bladder could be obstructed by a swelling of the prostate. John Hunter, Sir Everard Home, Brodie and others, recommended and indeed practiced tunneling of the body of the prostate by means of a metal catheter. This was found to be too dangerous and was soon abandoned. The classic case of tunneling the prostate is one which Chopart records of Astruc (a French physician and biblical critic, 1684-1766, who first suggested Jehovist and Elohist parts of Genesis). LaFaye, Astruc's physician, was called ten years before Astruc's death to attend him for an acute urinary obstruction and found he could not pass a catheter. He introduced a lance-shaped stylet through the open end of the catheter and perforated the obstructing prostate. He then forced a catheter through the opening and drew off the urine. He kept the catheter in place for fifteen days. Astruc was catheterized a number of times during the remaining ten years of his life and when he died the autopsy confirmed the condition as described. Chopart tried this tunneling of the prostate but always with fatal results and soon gave it up. Billroth had a similar experience in only one case.

Early in 1800 Dr. Phillip Physick, of Philadelphia, used a hollow elastic tube which he passed through the compressed prostatic urethra and dilated the tube with fluid. He thought he had some success with this method.

In 1881 Mr. Reginald Harrison, of London, devised a special olivary bougie of gum elastic with a long bulbous end. He used this to dilate the compressed prostatic urethra. Sporadic attempts at removal of portions of the obstructing prostate through a perineal incision were attempted throughout the nineteenth century but they were always undertaken as an emergency measure and no well conceived plan was followed. It was rare indeed when such operative measures postponed death for long.

Other methods of combating retention due to prostatic obstruction were devised which were more safe and sure than those just recited. Whenever a catheter could be passed this was the weapon of choice, but there always came a time when even the patient himself was unable to pass a catheter and then some other means of drawing the urine from the bladder had to be resorted to.

Suprapubic cystotomy is an operation three hundred years old and was done by Rossetus in 1590. It fell into disuse from fear of peritonitis and death in the pre-antiseptic days. Suprapubic puncture was the operation of choice in many cases. Not infrequently, the bladder was punctured through the rectum and the urine drained out by means of a trocar. A

* Read at the 75th Annual Meeting of the Missouri State Medical Association, Jefferson City, May 23-26, 1932.

more or less permanent suprapubic drainage was devised in the way of a silver or gold canula which was passed down into the bladder through the suprapubic puncture wound.

Sir Henry Thompson describes a method of what might be termed permanent suprapubic drainage which has more than historic interest. He had observed that the patients of Mr. Thomas Padget, who had had suprapubic punctures done and were wearing a canula, were completely relieved of their distressing bladder symptoms. He believed that permanent suprapubic drainage would be still better and waited until a suitable case presented and then proceeded as follows: he had a special sound made which was hollow and had a stylet or obturator fitted into the lumen and made a rounded finished tip. This was passed into the bladder and the tip impinged against the anterior bladder wall and against the abdominal wall an inch or two above the symphysis pubic. A small incision was then made against the point of the sound and the sound pushed through to the outside. The obturator was now withdrawn and a silver canula which had been fashioned to fit in the hollow sound was introduced. The sound and canula were then withdrawn into the bladder and the sound removed leaving the silver canula in place as a permanent suprapubic drain. Sir Henry Thompson published his ideas on the suprapubic tube in 1875. He later abandoned this plan for perineal drainage.

At the opening of the twentieth century the really great contributions to prostatic surgery came in. Colonel Peter Freyer was then just retiring from the British India Medical Service where he had served in India for over twenty years. He opened an office on Harley Street in London and became one of the early specialists in genito-urinary surgery. He was familiar with the surgery of urinary stone and had contributed no little labor and wisdom to its progress. He became the chief surgeon to that historic hospital in London, St. Peter's Hospital for Stone, and there he came in contact with many patients who had enlargement of the prostate. He was familiar enough with the methods of treatment of the day but which at best were only palliative, the use of the catheter being in his opinion one of the best. He visited McGill at Leeds and doubtless obtained some ideas, for McGill had done suprapubic partial prostatectomy as early as 1888 and in 1889 showed twelve cases and the specimens removed by a suprapubic prostatectomy before the British Medical Association. Fuller, of New York, published a paper in 1892 describing finger enucleation and introduced the suprapubic punch for cutting away

sclerotic bars through a suprapubic incision. I was much enlightened in listening to Dr. Edward L. Keyes² before the Southern Medical Association, November, 1931 read a paper entitled "Forty Years' Experience in Operating Upon the Bladder Neck." I quote him freely because he has been an eye witness to the beginnings of prostatic surgery and because of his candor and unbiased honesty he seems better able to evaluate the present rage for transurethral methods than the enthusiasts themselves. In the 1890's castration and vasectomy enjoyed some popularity in England as a means of reducing the enlarged prostate. Freyer, new in his Harley Street office and apparently ignoring the work of McGill, of Leeds, and of Fuller in New York, attacked the enlarged prostate by a suprapubic enucleation in December, 1900. In June, 1901, he gave the details of three other cases making a total of four cases, all successful and the patients able to control and hold their urine in a perfectly normal manner. In July, 1901, he published for the first time the results of these cases assuming himself to be the first thus to enucleate the prostate.

Freyer's claims aroused a storm of criticism and really focused undue attention upon his work. Freyer,³ being an aggressive sort of person, turned this publicity to his advantage and in a surprisingly short space of time had 1600 cases to report. According to Keyes, the real difference between McGill's operation and Freyer's was a question of drainage. Freyer introduced the large suprapubic drainage tube that is still known by his name and was able to care for the blood clots that interfered with drainage.

About this time Albarran, Petit, Moore, Murphy, Bryson, Young, Senn and Proust began the development of the perineal approach for the complete surgical removal of the prostate. As soon as the apparently successful surgical solution to this age-old problem seemed to have been placed upon a firm footing, it was found that the actual surgical removal of the prostate gland did not by any means cover the whole problem. It was soon discovered that the operation must be done in two or three stages to be successful in certain cases.

All are now familiar enough with the role that the various kidney function tests, blood chemistry studies, blood pressure observations, as well as myocardial data provided by the electrocardiograph have played in the preparation of the prostatic for operation and all this has convinced many of us that there is an irreducible minimum to be reached in mortality rates as they relate to prostatic surgery.

The mortality statistics in prostatectomy

seem somewhat confused. Series of cases without a death have been published. Certain writers separate the charity cases from the private cases and no private patient ever dies. Honestly reported series seem to indicate that the average operative mortality in competent hands varies from 5 to 10 per cent. The average of mortality taken the country over of all who attempt prostatectomy is somewhere about 25 per cent, or one in four subjected to this operation dies. This unsatisfactory situation has caused some of the most enterprising members of our profession to turn to a revival of the partial prostatectomy by the transurethral method by means of a cystoscope-like instrument thinking that by this means one could still further reduce the mortality and especially the period of disability.

The simple enumeration and description of the instruments devised in the nineteenth century for operating upon the bladder neck by a closed operation would take a lot of space. A similar cataloging of the same instruments devised thus far in the twentieth century would require a large book.

Young's punch, and its later modification Caulk's cautery punch, were originally intended to deal with prostatic bars or small median lobes, but Caulk has extended the use of his cautery punch to bilateral enlargements of almost any size. The discovery that the high frequency electrical current could be made to sever tissue in a comparatively bloodless manner opened an entirely new line of possibilities in the closed attack upon the obstructing lesion at the bladder neck.

About 1924 when the research staff of the Westinghouse Electric Company was experimenting with this current, using it on an auto condensation apparatus, one of the workers before turning off the machine attempted to get off the table. He placed his hand on a screw and felt a stinging cut on his hand. When he looked at his hand he found that he had a deeply cut wound which did not bleed very much. He examined the screw which his hand had touched and found that there was not enough cutting properties on the screw itself to have caused the cut. This led to an inquiry as to the number of alternations per second that this particular machine was making. It was believed that the high frequency current had produced the cut. It was a simple matter then to experiment on meat and to find that this cutting property of the current could be reproduced at will, providing the alternations per second were in the neighborhood of 800,000. Above this point or below this point the current would not cut so well. Just how this high frequency current performs tissue

severance is not clear but one explanation is that the cells which make up the tissues are so jostled by the bombardment set up by the current that they explode, thus making way for the loop as it is pulled through the tissues. Another theory is that tissue severance is accomplished by a sort of harmonic vibration. The idea being that the tissue cells have a certain rate of vibration and when this is matched by the vibrations from the cutting loop the cells disintegrate and explode, permitting the loop to pass through the tissue. It was found that this current would cut perfectly well while in the air; but when an attempt was made to make it cut under water another problem was encountered. This had to be solved before any such work as we are now attempting could be done.

In 1925 Maximilian Stern, of New York, devised an instrument which was known as the resectoscope, its principle was the removal of the obstructing portion of the prostate bit by bit by means of a loop which could be worked backward and forward in a window or fenestra of a cystoscope-like instrument. This wire loop was activated by a high frequency electrical current and pieces of prostate were resected in this manner. This instrument would cut under water most of the time and the procedure was made practically a bloodless operation. Stern read a paper before the New York Urological Society early in 1926 and in April, 1926, read a paper before the American Medical Association, at Dallas, Texas. At that time, he reported forty-six cases which he had done in six months' time. In his paper he stated that at that time a review with the cystoscope of these forty-six cases showed a remarkable result in the correction of the obstructions of the bladder neck. He gave a description of his instrument and the technic of the operation; he also reported two cases of secondary hemorrhage. Although Stern in his original paper seemed to make light of hemorrhage, it undoubtedly is one of the dangerous features of this method. Stern said he did not believe that secondary hemorrhage would occur unless too much desiccation was done and that when sloughing occurred hemorrhage would appear. T. M. Davis, at Greenville, South Carolina, took up the use of the Stern resectoscope and, being a machinist and an electrophysicist of no mean ability, improved Stern's instrument and aided in the development of better electrical machines to activate the cutting loop. His work has been as much pioneer work as was Stern's. During the present year Joseph McCarthy, of New York, brought out a cutting loop which was designed to be used in the McCarthy panendoscope. Many faults were dis-

covered with this loop and it was found that there were many difficulties in the way of using a cutting loop in the manner originally advocated by McCarthy, namely: loose in the pan-endoscope. A bakelite sheath was devised to prevent shorting and fusing of the loop when it touched the metal. Recently Mr. Rheinhold Wappler, of New York, has modified the instrument, using the rack and pinion and incorporating it into the new McCarthy resectoscope, and changing the shape and size of the loop.

I was not satisfied with any of the instruments available, so set about to make my own modification. With the aid of a model maker and mechanic in Kansas City I altered the pan-endoscope loop of McCarthy's as follows: (1) Made a metal sheath with a bakelite tip or end. (2) Secured the cutting loop to the telescope by means of clips so that both would move together and the loop thus become rigid. (3) Devised a sliding guide so that the loop could be drawn toward the operator and into the sheath, thus cutting off segments of the tissue.

With this instrument I have successfully resected 30 cases of enlargement of the prostate and prostatic bars. For small median lobes and bars it is ideal and beautiful sections of tissue can be made under full vision and generally without bleeding. The modification of the McCarthy instrument which I use cuts the section from within outward and as each piece is cut it is drawn out by removing the lens and cutting loop from the sheath. The sections measure from about 2.5 cm. to 3.5 cm. in length by 3 to 5 mm. in thickness. Hemorrhage is one of the most troublesome features of this method. In two of my cases there has been postoperative hemorrhage which was delayed for over a week. The technic of the operation has been described in detail by Maximilian Stern and by T. M. Davis. There are variations in technic, however, that each individual operator builds up.

A consideration of the pathological anatomy of the obstructing prostate be it a bar, contracture, carcinoma or benign type bilateral enlargement, soon convinces one that it is not really necessary to remove the entire prostate to clear away the obstructing portion. Anyone who has done any large series of autopsies has seen numbers of cases where there was a marked pathological enlargement of the prostate that did not cause the patient enough inconvenience to be noted in the case history. All of us have in the course of a routine examination discovered a very much enlarged prostate that was causing no symptoms whatever. It follows that it is only a small portion of the gland that really obstructs.

A rapid development of this revolutionary method of removing the obstructing portion of the prostate has been going on rather quietly in the hands of a few urologists and has now reached a point where our results should be given to the profession for consideration and discussion. No matter who the operator nor however skillful he may be, the average stay in the hospital for the prostatic who was the subject of a prostatectomy of whatever type has been from twenty-five to thirty-five days, with a period of disability following that varied considerably but often the elderly subject was not able to resume his occupation for from three to four months more. One of the great advantages in this new procedure is the saving of time in the hospital as well as shortening the convalescent period.

The preparation is done just as carefully as if we were going to do a two-stage suprapubic prostatectomy and nothing is left to chance. All blood chemistry studies are done, blood pressure records kept, kidney function tests and whatever other tests and data seem necessary for the success of the operation and prompt recovery of the patient. The operation is much more difficult and time consuming from the operator's viewpoint than the better known surgical procedures. It may take only twenty minutes to eradicate the medium-sized lobe completely but it may take an hour to two hours to resect rather completely a median lobe, bilateral type prostatic enlargement. We can remove as much as forty-five grams of tissue at one sitting. When it is remembered that the average size of the removed prostate which the pathologist reports on is about fifty grams it will be seen that forty-five grams is a rather large amount of tissue. The average amount of tissue removed is about 7 to 9 grams. This is generally sufficient to obliterate the obstructing portion of the gland. At the completion of the operation all bleeding points must have been sealed by coagulation and the irrigating water returned perfectly clear or at the most having only a pinkish stain. A catheter is then secured in place and the patient returned to bed. If the patient is young and there has been little or no residual urine, and no bleeding at any time during the operation, we may omit the indwelling catheter and send the patient back to bed without this, as I have done on several occasions. The catheter is left in place for forty-eight hours and then a measured quantity of solution is introduced into the bladder and the catheter is removed and the patient asked to stand upon his feet and void. In most cases so far the patient has been able to void the full amount of fluid injected.

That the results so obtained are permanent

is the contention of T. M. Davis, of Greenville, South Carolina, who has done about four hundred operations to date and many of them done as long as five years ago.

The first case I attempted was about a year ago. It occurred to me that if this loop of McCarthy's could be mechanically controlled it would be the key to the problem. However, little did I dream the tremendous amount of work and thought necessary to put this loop into practical use. The instrument has not yet reached its final form but as it now stands it is a very practical working tool.

The second problem was that of obtaining the proper electrical machine for developing the tissue-severing current. Much work had already been done in the field of general surgery and brain surgery. Bovie, professor of physics at Harvard University, at the suggestion of Harvey Cushing, set to work to design a high frequency machine that would have just the right amount of tissue severance without tissue destruction by coagulation. The Bovie surgical unit, although completely satisfying the demands of the brain surgeon, was not entirely suitable for satisfactory under-water cutting, which was necessary in the resectoscope operations. T. M. Davis then went to Cincinnati and worked with G. H. Liebel and perfected a machine that is almost ideally perfect in its performance. There are several other machines on the market.

For the purposes of this discussion we may classify the cases amenable to this operation into four different groups:

(1) Those with bars or contractures. (2) Those with moderately enlarged benign prostates with residual urine varying from 100 c.c. to complete retention. (3) Very large benign type enlargements. (4) Carcinoma of the prostate.

1. For the first time we have in our hands the means to correct prostatic obstructions adequately in the early stages. Most patients who come for relief have a history of some urinary disturbance for from five to fifteen years. As long as such patients were in good health and the nocturia amounted to two or three times and the residual urine was not more than 60 c.c. they were told to wait or that they were too late for treatment and too early for operation. We can now deal with these early cases and remove the obstructing portions of the gland when they are yet small and the patient is in good physical condition. The obstruction removed, the gland shrinks down and in all probability a permanent cure results.

2. In the moderately enlarged prostate cases the bilateral median lobed type, with residual urine varying from 100 c.c. to complete re-

tention, the resectoscope operation ought certainly to be tried first. It is in this class of cases that the most brilliant results have been obtained. The younger men, that is, those from 50 to 65, usually have employment and are very anxious not to lose much time. The old man, that is, those past 70, may have no business or occupation and time may not mean so very much. On the other hand, the less surgery one can do on one of the frail old men the better, for they will not stand much operating. To do a resectoscope operation, even though it cannot all be accomplished in one operation, is preferable to the open operation and the results are just as good in many cases as the surgical removal of the gland.

3. In the very large benign type one would think that here is a case where the resectoscope would be of little use. However, one cannot tell for sure until one has tried. I have successfully resected cases where it seemed about impossible to get the scope over the enlarged middle lobe. Frequently, a prostate that will weigh over 100 grams is amenable to this resectoscope operation.

4. In carcinoma of the obstructing type the resectoscope offers the best of the palliative measures (and there are no other measures). In carcinoma of the prostate one of two conditions predominates. The first may be obstruction to the urinary outflow with the malignant character of the gland playing a minor role. In these cases it is necessary first to relieve the obstruction. Every surgeon of experience knows that such a prostate cannot be surgically removed, and if such an attempt be made the operative mortality is very high. The resectoscope, therefore, offers the best means of clearing the bladder neck. The correction of the obstruction having been done, one can then implant radium needles about the prostate, doing this through the perineum and completely irradiating the malignant gland with a minimum of danger to the patient. There should be no reason for any other type of surgery on a malignant prostate. The diagnosis of carcinoma of the prostate is generally easy; if there should be any doubt it is no longer necessary to open the patient's bladder to remove a section for this can be done by means of the resectoscope in a safe manner and the diagnosis established by the pathologist.

A study of my 30 cases follows:

STUDY OF 30 CASES

There was one death due to a delayed hemorrhage which occurred ten days following the operation. The mortality rate, therefore, thus far is 3.3 per cent, which compares favorably with the best selected series of reported cases

with open surgical operations. When it is remembered that in this series five were carcinomas the mortality rate is exceedingly low.

Two were under 50 years of age. Eight were between 50 and 60. Eight were between 60 and 70. Eleven were between 70 and 80. One was over eighty.

The average stay in the hospital was 14 days and this includes the charity cases as well as private cases. The average stay in the hospital following the operation was 6 days.

In four cases it was necessary to do a second operation to obtain a satisfactory functional result and rid the patient of residual urine. Three had dribbling following the removal of the catheter for from one to four days but recovered control completely.

In one case after two resections taking out a total of over 20 grams of tissue the patient was still unable to void and a prostatectomy had to be done.

In only one case was there an epididymitis and that came three weeks after the patient had left the hospital. In only two cases was a vas section done. In some cases the urine remained infected for a long time but all of them cleared up after several weeks.

One of the striking features of this operation is the remarkable absence of pain or discomfort following the operation. The patient may complain bitterly of the discomfort of the indwelling catheter before the operation but all of them say they feel perfectly comfortable afterward. In three cases I omitted placing an indwelling catheter following the operation. These patients complained of no pain upon voiding even a few hours following the operation.

CONCLUSION

In conclusion I can state as my belief that this operation can take care of 60 to 70 per cent of vesical neck obstructions. I believe the results will be permanent and am fully convinced that over a ten year period practically none of the cases will recur. It is an operation that will always be confined to the most skillful instrumentalists. The casual cystoscopist must stay out of this field. The question as to whether or not it is less dangerous than a two-stage prostatectomy is not easily answered. I believe it will completely supplant perineal prostatectomy. It will never be more than a supplement to the carefully done two-stage prostatectomy. It is by far the best of the methods of closed operations upon the bladder neck because of the complete visualization of the structure to be resected.

The contraindications are: (1) An infected prostate; (2) an infected bladder that cannot be completely cleared up by catheter drainage;

(3) complications, such as stone in the bladder, diverticulum or papilloma; (4) the length of time necessary to perform the operation; (5) the prolonged period of infected urine following the operation; (6) the danger of delayed hemorrhage.

1530 Professional Building.

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INSULIN AS AN APPETIZER

O. S. JONES, M.D.

ST. LOUIS

For at least a century the medical profession has been giving *nux vomica* and compound tincture of gentian before meals to increase the appetite. Previous to 1921 this was the only available method in general use. But the bitter stomachics never accomplished much more than the production of the bitter taste in the mouth, together with a bitter hatred of both prescription and prescriber. They did not increase the appetite.

In certain classes of chronic diseases, notably tuberculosis, arteriosclerosis and chronic interstitial nephritis, the anorexia is an outstanding feature. To the patients the very thought or sight of food is revolting. There is present a sense of fullness within the stomach; an attempt to eat arouses a feeling of nausea, and every bite must be choked back to prevent its regurgitation. These patients state they are absolutely never hungry. Many have daily vomiting attacks.

The chronic diseases do not terminate life swiftly. It is often a matter of years. During this time the patients are able to walk about and to occupy their minds with some slight amount of endeavor, such as reading and sewing. But they continue to lose weight and their condition becomes weakened. It is more often the relatives not the patients who sound the alarm. They complain, "Mary doesn't eat enough to keep a bird alive." And so, action must be taken.

Insulin has proved to be the one factor having therapeutic value actually useful in the management of these conditions. In using insulin daily nearly all of the disagreeable symptoms disappear from the eating habits of the patients. The sense of fullness, the nausea, the vomiting, the food revolt—all disappear or reduce to a minimum under this treatment.

The severe cases may require three injections a day. The average case requires but one. The initial test dose is 5 units. This amount is increased at the rate of 5 units a day up to a maximum of 20 or 30 units at one injection. The individual tolerances to insulin vary. Some may stand but 10 units a day, but these are few. Most patients can take 20 units at one injection; if necessary, this may be repeated three times a day. A single injection of 20 units thirty minutes before the noonday meal is preferable. The insulin is injected subcutaneously. Patients often state they have more appetite for the evening meal than for the noonday meal under this plan.

A well balanced diet is sufficient. A predominance of carbohydrates gives a quicker source of this food element. A light breakfast seems to be all that the patients ask for. Hypoglycemia rarely develops. A precaution of a lump of sugar to be at all times available is sufficient to allay the patient's fears. Instruction must be given regarding any feeling of faintness, sudden weakness and extreme hunger sensations. Should these occur the sugar is to be taken at once, or better, a small bottle of commercial grapejuice. Patients under this treatment should not be left alone after the insulin has been given.

Under insulin treatment of these cases the patients will usually gain weight, become more active and enjoy a more pleasant mental state. Insulin is not a panacea; it does not cure, but it will restore the appetite of the majority of patients suffering from the anorexia of chronic diseases. In extreme cases insulin has actually been a life-saver.

5535 S. Grand Blvd.

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Cleanliness can become contagious even in the rural schoolhouse that lacks the facilities of running water and janitor service. In fact, real cleanliness teaching must arouse a desire not only to be clean but also to perform the labor necessary to make cleanliness possible.

Grace T. Hallock describes in detail in *Hygeia* the campaign of one rural teacher to obtain sanitation in the school and to encourage personal cleanliness in the children.

DIAGNOSTIC FEATURES OF SYPHILIS OF THE CENTRAL NERVOUS SYSTEM*

KATHERINE SUYETOFF, M.D.

NEVADA, MO.

Among the diseases affecting the nervous system syphilis occupies an important place. Statistics show that 643,000 cases of syphilis are constantly under medical care in the United States.¹ The number of deaths due to syphilis in 1927 amounted to 15,976 as compared with 16,466 in 1926,² and the result of a number of published reports over a ten-year period indicates that 6.9 per cent of women admitted to maternity hospitals had a positive Wassermann reaction.¹ Syphilis stands first or second among the infections most frequently reported to the public health service from the several state health departments.¹ Neurosyphilis affects more men than women and later investigations show no marked diminution of percentage of this disease among men during the last ten years and slight increase among women, probably because syphilis has increased among women.³

About 5 per cent of all those infected with syphilis develop neurosyphilis.⁵ Factors that are significant in the etiology of neurosyphilis are: (1) Neuropathic heredity, (2) trauma, worries, infectious diseases, sexual and alcoholic excesses, etc., (3) special strains of the spirochetes may have preference for the nervous system. At one time it was thought that the cause of frequency of neurosyphilis was antisyphilitic treatments with arsphenamine and even mercury, but investigators have disproved this.³ Later studies show that neurosyphilis is more frequent when syphilis has been inadequately treated at the start than when it had not been treated at all.⁴

Neurosyphilis may be divided into (1) interstitial syphilis, to which belong diseases treated under (a) cerebral, (b) spinal, (c) cerebrospinal syphilis and (2) parenchymatous syphilis, to which belong (a) tabes, (b) general paresis, (c) certain forms of progressive muscular atrophy.⁵

Cerebral Syphilis.—Cerebral syphilis may be divided into several groups, (a) cerebral vascular syphilis, (b) syphilitic meningitis, (c) gummatous variety. Combinations are also frequent. There are meningovascular meningogummatous and meningovascular gummatous types.⁵

As a rule, brain syphilis first makes its appearance during the secondary stage but it may

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occur at any time after that even up to the twentieth or thirtieth year after the original infection and about 50 per cent of brain syphilis occurs within three years following the infection.⁶ Syphilitic cerebromeningitis is probably the most frequent form of cerebrosyphilis.

Cerebrovascular Syphilis.—In vascular brain syphilis the middle cerebral artery and its branches (lenticulo striate artery) due to thrombosis are most often affected and the basillar artery with its branches next. The usual symptom of cerebral vascular syphilis is hemiplegia and if the syphilitic process involves the left middle cerebral artery there will be a combination of hemiplegia with aphasia. This speech disturbance usually takes the form of thick speech or inability to find the proper word in ordinary conversation. Paralysis is rarely followed by loss of consciousness and premonitory symptoms usually will be present, which may disappear because of reestablished collateral circulation and make their appearance perhaps weeks or months later with greater intensity before the complete syndrome of cerebral syphilis is established.

Premontory symptoms are usually in the form of headache, vertigo, insomnia and motor weakness. The latter may show itself in clumsiness of the hands or in a tendency to drop things, also in a stumbling gait or a dragging toe. The involvement of blood vessels supplying sensory and special sense centers will produce the symptoms characteristic of interference with their nutrition.

The oculomotor nerve is most often affected, consequently there is paralysis of eye muscles and irregular noncircular pupils responding sluggishly to light. Mental disturbances not infrequently precede paralysis which may occur in the form of mental apathy, lack of concentration, forgetfulness, loss of memory, irritability, hypochondriasis, depression, and hilarity as the result of syphilitic arterial disease in the purely psychic centers. Localized convulsions, so-called Jacksonian epilepsy, may appear in this form of brain syphilis though this syndrome is more common in meningitis of the convexity.

The somatic symptoms are few in number. There is practically no change in temperature, but rarely it rises to 101 to 102 F. Pulse is soft, compressible, weak or rapid, but may be normal.

Deep reflexes are exaggerated, Babinski positive on right side; right-sided hemiplegia with sensory and motor aphasia; the pupils are irregular, react sluggishly to light but well to accommodation.

Cerebral hemorrhage is rarely caused by syphilis of the brain. The artery most often

affected is the basillar at the base of the brain and the termination is usually fatal. This artery is seldom attacked by either thrombosis or hemorrhage, except in extreme old age when the arteries have become brittle. Only when symptoms of basillar arterial disease appear in the young individual is syphilis of the brain the probable diagnosis.

Syphilitic Meningitis.—Syphilitic meningitis may be divided into (a) syphilitic meningitis of the convexity and (b) acute syphilitic basillar meningitis.

Syphilitic meningitis of the convexity usually appears in the secondary stage of syphilis,⁷ from one to four months after the first appearance of the chancre. The onset is more gradual than in basillar meningitis and the fever is much lower in this type. It is characterized by general symptoms (a) headache, (b) insomnia and extreme anxiety, (c) dizziness, (d) sudden attacks of vomiting, (e) transient attacks of unconsciousness lasting only a short time and (f) failure of memory. There may be monoplegia, hemiplegia, aphasia—motor and sensory mixed due to involvement of the cortical centers—and (g) probably the most important symptoms localized or general convulsions with transient palsies.

The physical signs are rigidity of the neck, Kernig's sign, ankle and patella clonus, transient or permanent. Babinski, Oppenheim and Gordon reflexes are present. Blood Wassermann is frequently negative in this group. The spinal fluid shows lymphocytosis, the colloidal gold curve resembles the paretic curve and Wassermann of the spinal fluid is positive.

Acute Syphilitic Basillar Meningitis.—This form is more frequent than the syphilitic meningitis of convexity but both convexity and base may be involved together, characterized by the usual general symptoms of headache, usually supra-orbital or occipital type, insomnia, anxiety, malaise. Onset is usually sudden with so-called localizing signs, such as paralysis or palsies of the several cranial nerves situated at the base of the brain. Because of frequent localization of meningitic processes at the interpeduncular space, the oculomotor and optic nerves and the optic chiasm are most often affected. Common signs of oculomotor nerve involvement are ptosis, external strabismus, accommodation defects and mydriasis.

Visual defects or even sudden blindness due to involvement of the optic nerve are not uncommon. Optic neuritis is common and may progress to atrophy. Choked disc when present is usually bilateral.

Facial nerve involvement is not uncommon and is characterized by paralysis of the face and scalp and anesthesia of the tongue, usually

in combination with auditory paralysis. Combined unilateral facial and auditory palsy unless caused by trauma always suggests syphilis. The so-called cerebellopontile angle syndrome with involvement of the fifth, seventh and eighth nerves is not rare.

Rarely is the motor branch of the trigeminus affected but when it is we have paralysis of the muscles of mastication; otherwise the symptoms will be trigeminus neuralgia followed by anesthesia of face, tongue and teeth. Bulbar symptoms occur later, characterized by difficulty in swallowing and speaking. All these palsies are transient, that is, very characteristic to syphilitic disease. In basal meningitis almost any combination of lesions with their corresponding symptoms is possible. For instance, paraplegia may be the result of disease over the pyramidal decussation and cerebellar symptoms may appear in consequence of a syphilitic process over the cerebellum. Wassermann on blood and spinal fluid positive. Lymphocytosis, increased globulin, no special curve with colloidal test.

Gummatous Meningitis.—This form includes cases of longer standing in which gumma develops. Gumma may be localized either on the convexity or the base. At first there is usually involvement of the cortical centers recognized by cortical convulsions, cortical paralysis, hemiplegia, monoplegia, aphasia, transitory but recurring. If gumma is on the base symptoms will depend upon the cranial nerves involved. Eye palsy is the most common type of cranial paralysis and is transitory in character. The general symptoms of brain pressure, consisting of headache, nausea, vomiting, choked disc, general malaise and vertigo are present. The symptoms observed in syphilitic tumor are similar to those found in nonspecific tumor and in such cases the Wassermann test is of immense diagnostic value. The blood Wassermann is positive but the spinal fluid Wassermann may at times be negative. Some records show in cerebral syphilis positive Wassermann reaction on blood in 71 per cent and 90.3 per cent on spinal fluid. Fritzsche says there are no negative reactions on blood and spinal fluid in cerebral syphilis.⁸

Syphilitic Spinal Meningitis.—Syphilitic spinal meningitis may be discussed under (a) syphilitic "spinal" meningitis, (b) chronic syphilitic "spinal" meningitis and (c) Erb's spinal syphilis.⁷

Syphilitic spinal meningitis is due to syphilitic involvement of meningeal coverings of the cord and the cord itself. As the earliest pathology usually is in the meninges and the posterior roots passing through them, irritated pain is a prominent symptom, usually worse at

night, "shooting" or "lightning" pains in the back, dull aching pains in the neck and between the shoulders radiating to the extremities. Hyperesthesia and paresthesia are present as well as girdle sensation, as in tabes. As the disease progresses irritable motor symptoms are present. The motor paralysis is of the upper motor neuron type, characterized by rigidity in the neck, painful on motion, exaggerated reflexes, the presence of Babinski, spasticity, weakness of the arms and legs with tendency to fatigue easily on exertion. Gait is uncertain, moderate ataxia and the absence of muscle atrophy and of electrical changes. The motor paralysis of the lower motor neuron type is characterized by atrophy of muscles, loss of reflexes and paralysis of the flaccid type.

Early disturbance of bladder and rectum is usual, such as incontinence of urine and feces, and the sexual function may show impairment. It should be remembered that the paralysis may be incomplete and transient.

It is quite possible that one half of the cord may be involved and the picture of a Brown-Séquard paralysis will be present. The motor paralysis will be found on one side and the sensory disturbance will be principally limited to the opposite side.

The spinal fluid shows positive findings and the blood has a tendency to be negative.

Chronic Syphilitic Spinal Meningitis.—In this group the membranes of the cord become thickened, fibrotic and adherent. The symptoms depend upon the localization of the pathological changes and to their extent. The usual symptoms of this type are (a) girdle pain, which is more common because the sclerotic process involves the nerve roots, (b) some degree of ataxia is present, (c) pain in the back, neck and extremities constant though not severe, (d) localized patches of anesthesia are more common than hyperesthesia and paresthesia, (e) spasticity will occur if the lateral columns have been invaded, (f) invasion of the anterior corneal cells may cause paralysis or paresis of one or more extremities or the paralysis may be limited to a group of muscles.

Erb's Syphilitic Spinal Paralysis.—The mid-dorsal cord is the most common site of syphilitic involvement in this type. There is no involvement of all nerve tissue above the level of the dorsal cord; (a) for this reason there are no symptoms pointing to brain, cranial nerves, pupils and upper extremities; (b) it usually develops slowly, taking weeks, months, years; (c) early symptoms are heaviness and paresthesia of the legs (pricking and numbness), difficulty to ascend stairs, inability to step on elevated ground without falling, spasm of the

sphincter of the bladder prevents expulsion of urine, retention is common; (d) spasticity and paresis of the lower extremities with spastic gait but without wasting, rigidity conspicuous when walking, the motor impairment is far greater and overshadows the sensory symptoms; (e) increase in all reflexes, knee jerk and ankle clonus; (f) sexual disorders; (g) in unfavorable cases the paraplegia is complete and atrophy and contractures follow.

Cerebrospinal Syphilis.—Cerebrospinal syphilis is due to syphilitic involvement of the brain and spinal cord and characterized by combinations of brain symptoms and spinal cord symptoms in various proportions. Sometimes one precedes the other and we get the most varied combination of symptoms making description of types an impossibility. Cerebrospinal syphilis is the most common form of interstitial syphilis of the nervous system, and mental syndromes are seldom absent in interstitial syphilis. In about 50 per cent of cases cerebrospinal syphilis appeared during the first year, most frequently from two to three months after the infection.

Positive Wassermann reactions on blood occur in 80 to 90 per cent, globulin positive (exceptionally negative), lymphocytosis nearly always positive, Wassermann on spinal fluid positive in about 10 per cent with .2 spinal fluid, nearly always positive with larger quantities of spinal fluid.⁵

Tabes.—Tabes is the most common organic disease of the spinal cord and belongs to the group of parenchymatous neurosyphilis and due to syphilitic process in the cord commencing in the posterior root ganglia, ascending in the posterior columns and extending into the brain involving certain cranial nerves, especially the third, fourth, sixth and second.

Although tabes occurs most frequently in middle life it may occur in infants and in men seventy or eighty years of age. Usually, from five to twenty years is required for the development of this disease, but it may appear within half a year or fifty years after the chancre.⁵ About 1 per cent ofluetics are tabetics.⁹

The symptomatology varies and presents a multiformity of pictures according to the extent, intensity, diffuseness and location of the lesions. It may be divided into (a) preataxic or prodromal, (b) ataxic and (c) paraplegic stages.

In the preataxic or prodromal stage the symptoms may last for months or years and sensory symptoms predominate. At this time the patient usually suffers from so-called lightning pains and may complain of so-called "rheumatic pains" for some months or years

before he consults a physician. The pain is transitory in character, occurring usually twice a month and for two or three days. "Girdle" pains are most common and are permanent, encircling the chest-tabetic cuirass and abdomen-tight belt feeling, which may appear after a full meal or independent of the ingestion of food. Cramps in the leg muscles are common. At times pains are the only manifestation of tabes. Paresthesia follows the pains with formication in the feet and hands, numbness and a sensation as if walking on a carpet, frequent complaint of slight bladder and sexual disturbance and constipation. A feeling of exhaustion and uncertainty of the legs approaches gradually and the patient discovers he is uncertain on his feet in the dark, or when he washes his face he may notice a slight swaying of the body when the eyes are closed. Eye symptoms may occur in any state and involvement of the oculomotor nerve is frequent. Ptosis and squints, usually bilateral, may be temporary but usually return. Varied pupillary disturbances, such as inequality, irregularity (phenomena which may for some time precede the development of the Argyll Robertson pupils), miosis, mydriasis, sluggishness, Argyll Robertson pupils. Only in tabes and general paresis can be found such variety of pupillary disturbance. The Argyll Robertson pupil occurs in over 50 per cent⁷ and is usually associated with miosis. Optic atrophy,⁵ seen in about 10 per cent, often ends in blindness and usually appears before the ataxic stage when the patient is quite well. It may even precede all other symptoms and is usually progressive. Optic neuritis is occasionally present.

Neurological Signs or Subjective Signs in the Early Stage.—(1) Absence or reduction of knee reflex (Westphal's sign). This is an early sign in 95 per cent of the cases.⁷ (2) Argyll Robertson pupil. Pupil fails to contract to light but the accommodation reflex is retained. (3) Romberg's sign. Swaying upon closure of the eyes. The gait begins to show ataxic characteristics. (4) Analgesia is the most common of all sensory disturbances and its peculiar confinement is to certain areas on the extremities and the head, in the upper extremity on the fingers and ulnar border of forearm, in the lower extremity to the sole of the foot, heel, toes and inner surface of the thighs. These patches are quite symmetrical and are frequently surrounded by zones of hyperesthesia and hypesthesia over the trunk. (5) Diminished vibration sense. (6) Non-symmetric and infrequent areas of hyperalgesia. (7) Abadie's sign and Biernacki's sign are very often the earliest signs of tabes.

The Ataxic Stage.—In this stage motor symptoms predominate and are characterized by muscular incoordination progressive in nature. The ataxic gait is first manifested in the lower extremities, the upper limbs being affected later. Occasionally, however, the upper extremities are first affected which is shown in writing, picking up small objects from the table, etc.

The ataxic gait is first manifested in the lower extremities by the peculiarity in gait. Uncertainty in walking is first observed at night. Patient must watch his feet when walking. When the ataxia is well marked in the legs the tabetic raises his feet too high, throws them too far forward and brings them down too suddenly, heel first and toes last, giving the characteristic stamping double step. As the disease progresses the patient can walk only with cane or crutch. Tabetics cannot squat and the act of rising or sitting down is abrupt and suddenly executed.

Hypotonia, excessive mobility of the joints due to reduced muscle tonus, occurs either as a result of ataxia or as an independent phenomenon. But no matter how incoordinate the movements in the extremities may be there is never any diminution of power in the muscles themselves. Although there are cases of tabes in which wasting of muscles and paralysis are symptoms these are complications and not a part of the symptomatology of tabes.

The Paralytic Stage.—This stage is characterized by (1) complete loss of power of locomotion in lower extremities, (2) wasting of legs slight, muscle strength fairly good, (3) the arms are not as seriously paralyzed as the legs and patient becomes an invalid, (4) rectal and urinary paralysis predispose to various uropathies, (5) the lightning pains of the prodromal stage practically disappear by this time but anesthetics and analgesics with extreme loss of the deep sensibility may take place, (6) the mind remains clear.

Tabetic palsies are of two kinds, (a) those due to wasting of the muscles as a result of trophic changes in the anterior horn. These occur late. (b) Those due to organic and vascular changes in the brain and cord. The palsies include hemiplegia, facial paralysis, monoplegia, paraplegia. Diagnostic features of tabetic palsies are (a) usually benign and transitory and (b) ptosis is an early sign. Paralysis of other cranial nerves is not common with the exception of the trigeminus and vago-accessorius.

Gastric and visceral crises of tabes are very characteristic in this stage, but they may appear as the earliest symptom and before any of the others. There may be three types of

gastric crises: (a) sudden attack of pain without vomiting, (b) sudden attack of vomiting without pain, (c) sudden attacks of pain plus vomiting. The pain usually is epigastric and vomiting is uncontrollable. Intense prostration follows these attacks. The patient often remains exhausted for days or weeks. The interval between attacks may vary from days to years. Almost as suddenly as it comes does the attack disappear and it may last from a few hours to as many days or weeks.

Only second in importance to gastric crises are the laryngeal crises. Like the gastric crises, they have a sudden beginning and an abrupt ending. Attacks vary in severity. There may be merely irritation in the larynx with spasmodic cough of variable degree. In the more severe cases there is suffocation. An attack of laryngeal crises presents a picture even more alarming than the most violent gastric crises.

Trophic Disturbances.—Disturbances of general nutrition, anemia, emaciation, are not uncommon in any stage of the disease, but the trophic disturbances, such as perforating ulcer of the foot, pathological fractures and arthropathies, are observed in tabes of long duration and are not so uncommon. In the opinion of some writers 10 per cent of tabetic patients acquire arthropathies.⁹

This is the usual type of tabes. There are certain varieties of tabes which are rarely seen; for instance, the (a) bulbar type in which the cranial nerves are involved early. The subject of this variety of tabes may suffer from laryngeal or pharyngeal crises, ocular palsies, optic atrophy. No symptoms of cord involvement in this type and ataxia is exceptional. (b) The cervical type of tabes in which the disease affects principally the upper part of the body. There is extreme ataxia in the arms. Deep reflexes of upper extremities are absent while the reflexes of the lower extremities may still be present. Argyll Robertson pupil, perhaps diplopia or ptosis, but the sphincters may be intact. (c) Superior tabes in which there are both bulbar phenomena and cervical cord symptoms. (d) Conus or caudal type of tabes, sphincter disturbances, trophic changes, etc., but no symptoms from dorsal or lumbar cord involvement.

Summary of most prominent signs of tabes: (1) Loss of the tendon reflexes. (2) Argyll Robertson pupils, complete or incomplete. (3) Sensory disturbances. (4) Romberg sign. (5) Ataxia of locomotion. (6) Hypotonicity of muscles. (7) Sphincter disturbances. (8) Paralysis of ocular muscles. (9) Optic atrophy. (10) Crises. (11) Trophic changes.

Juvenile Tabes.—Occurring in the young, the patients being between 6 and 25 years of

age. Observed in congenital syphilis and in syphilis acquired early in life. Symptoms resemble those of the adult type excepting that optic atrophy is more conspicuous and that ataxia is less prominent. Mental symptoms are more prominent. Taboparesis is very common and runs a more rapid course. Johns Hopkins Hospital shows that 3.4 per cent of 10,000 syphilitics had congenital syphilis.¹⁰

In tabes, blood Wassermann is positive in from 60 to 75 per cent, spinal fluid negative in dilution of .1 or .2 (5-10 per cent); in dilution of higher amount positive in 100 per cent. Pleocytosis 90 per cent. Increase in globulin 90 per cent, tabetic colloidal curve.⁵ There are some cases where neither the blood nor spinal fluid is negative in spite of the presence of symptoms which point to tabes.

In juvenile tabes the Wassermann reaction as in most cases of congenital syphilis is frequently negative. Some records show (19 cases of tabes) 25.6 per cent negative reaction on blood and cerebrospinal fluid; a positive Wassermann reaction of the blood with negative fluid is seen in 7.7 per cent; negative blood Wassermann with positive fluid Wassermann in 15.4 per cent of tabes.⁸

Paresis.—General paresis usually makes its appearance in from 5 to 20 years after the primary infection, and in the form known as juvenile paresis the disease may become manifest between the ages of ten and twenty years. Fortunately, not every syphilitic develops paresis. Statistics show that in the United States 4 per cent of the population of institutions for mental disorders is dementia paralytica—in 1910, 6.4 per cent and in 1922, 7.9 per cent. During 1929 and 1930 there were committed to the four state hospitals for mental and nervous diseases of Missouri, 3459 patients. Of this number there were 326 paretics, or approximately 9 per cent were paretics. A remarkable fact in connection with the development of paresis is the almost universal history of a very mild attack of syphilis. This may account for the previous lack of treatment admitted by nearly all patients.

In this type of parenchymatous syphilis there is found a combination of nervous and mental symptoms and most often mental signs constitute the leading feature. The symptoms are progressive in nature but characterized by curious remission periods. The usual clinical types of paresis are: (1) Demented type. (2) Agitative, expansive—40 per cent begin with excitement and delusional activity. (3) Depressed silent type—33 per cent begin this way. (4) Taboparesis—10 per cent of paretics show tabetic symptoms.⁵ These types may change during the progress of the disease. Agi-

tative or excited or expansive type is considered the classical form of the disease.

Demented Type.—Usually leads to simple deterioration without delusions and hallucinations. Remissions are rare and the course is rapid and approaches gradually. Patient complains of indefinite pains, pressure headaches, mental fatigue, lack of concentration. There is increased irritability and changes in character and progressive deterioration of the feelings. Patients who were formerly considered self-willed and irreproachable in conduct become extremely suggestive and have a tendency toward immoral acts. Soon the consciousness becomes clouded and the patient fails to comprehend his environment. Memory fails first for recent and later for remote events. Gradually patients become dull and apathetic and easily contented. Mental weakness sinks to dementia and patient becomes wholly indifferent.

At first there may be some insight into the condition because of poor memory and slowness of thought, but increasing deterioration gradually produces a sense of well-being and perfect confidence in their own abilities.

Paralytic attacks occur in almost one half of the cases. The speech is paretic, apoplectic attacks are followed by paralysis, muscular paralysis becomes more complete, urine and feces pass involuntarily. Because neurological signs are absent in the first stage of this type a definite diagnosis is impossible without laboratory assistance.

Expansive, Excited, Agitative Type.—The characteristics of this type are delusions of grandeur, a prolonged course and greater prevalence of remissions. Patient is usually happy, cheerful and confident, there is bodily comfort, well-being, absence of pain or distress. Patient talks excessively and develops great schemes. He possesses stupendous wealth and power. He is the god of gods, the king of kings. He counts in millions, billions. At times they are agitated and psychomotor excitement well marked. They are very changeable emotionally and there are maniacal outbursts of violence. They are noisy, shout, cry, sing, more or less constantly in motion, refuse to eat and do not sleep, exhausting themselves. The cases with extreme degree of excitement and clouding of consciousness are quite often classed under a separate type—so-called agitated type of paresis and because some of them terminate fatally within a few weeks they have been termed "galloping paresis."

Depressed Type of Paresis.—Characteristic of this type are despondency and depressed delusions. Patient usually suffers from numerous pains and aches of the neurasthenic. At

first complaint has an adequate emotional background, later they are senseless. They are constantly worried and become extremely hypochondriacal. In many cases there are delusions of sin and even of persecution, accompanied perhaps by visual and auditory hallucinations. There are agitated states of depression which may appear as state of stupor. Resemblance of agitated melancholia and dementia praecox is striking. They change in character and lose interest in affairs. The depressed form of general paresis occurs in persons past 40 years of age. Remission may be expected in about 10 per cent of cases and paralytic attacks in 25 per cent.

In its course paresis is divided into three stages: (1) Prodromal symptoms of depression. (2) State of exaltation. (3) Stage of dementia.

The physical signs of this disease are almost as numerous as the mental. They may appear before the mental symptoms or not until dementia has become well advanced. Regardless of the stage the following group of motor symptoms are typical: Muscular incoordination. (1) Speech disorder: dysarthria—imperfect utterance—aphasia—defect or loss of the power of expression by speech, writing, or signs, or of comprehending spoken or written language due to disease of the brain centers. Usually speech is slow, hesitating, slurring, long words cannot be pronounced well; in final stage speech cannot be understood. (2) Handwriting; letters are irregular and tremulous, finally illegible. Letters and even words omitted. (3) Tremor: Romberg's sign, unsteady gait. Tremor of tongue, face and hands. Tremor interferes with handwriting. Face shows relaxation, expressionless, lack of intelligence. Flattened nasolabial fold. (4) Bladder and sexual disturbances: decided early impotency. (5) Pupillary changes (eye symptoms); pupils are unequal and immobile, irregular in outline. Argyll Robertson pupils have been observed in one or both eyes in different degree. In a small number of cases is optic atrophy, usually not of the same intensity on both sides. Less commonly the ocular muscles are paralyzed causing strabismus and ptosis. Often pupillary changes may be the only signs for many years before paresis is clinically recognized. (6) Reflexes: usually exaggerated, often unequal, except when the disease follows locomotor ataxia (10 per cent). In the cases with increased deep reflexes there may be found other symptoms of pyramidal tract involvement. Babinski, Oppenheim, Gordon and Chaddock signs. (7) Convulsions: of short duration may occur early but frequently increase with the progress of the disease. Con-

vulsions may be apoplectiform or epileptiform. During apoplectiform attacks monoplegia, more often hemiplegia, occurs but it is usually temporary. Generally, paretics may recover from this paralysis within a few hours or a few days. (8) Progressive paretic conditions and contractures occur late. Progressive muscular weakness. Patient becomes bedridden and dies of intercurrent disease. Remission periods characteristic for paresis.

Taboparesis.—Ten per cent of paretics show tabetic symptoms, characterized by a combination of the symptoms of tabes and paresis. In pure tabes the mind is not affected. Most common neurological signs in taboparesis are (1) Westphal's sign, (2) Argyll Robertson pupil, (3) mild ataxia and Romberg's sign, (4) lightning pains, (5) bladder weakness, (6) impotency, (7) ocular palsies of all types, (8) paresis instead of paralysis, (9) predominating and serious mental symptoms.

Juvenile Paresis.—This form of general paresis is not rare as was formerly believed. Many of the cases have been diagnosed as idiocy or as dementia praecox. The age of onset is from 7 to 15 years after infection.

Syphilitic Progressive Muscular Atrophy.—Syphilitic progressive muscular atrophy is that form of parenchymatous neurosyphilis in which progressive muscular atrophy appears as an independent syphilitic affection due to involvement of the anterior horn of the cord. The disease usually has a subacute beginning and requiring from one to four months for its development and there are occasional remissions. The symptoms of paralysis or weakness precede the atrophy but otherwise the disease follows the course of nonspecific muscular atrophy. The upper extremities are affected in the shoulder girdle and eventually the forearms and hands show extensive atrophy; or the wasting may begin in the small muscles of the hand and involve the higher parts later. From the shoulder girdle the usual course of progression is to the deep muscles of the back then downward to the thigh muscles and finally the leg muscles, which oftentimes escape. Deformities and contractures are secondary; lordosis is very common. The anterior horn only being involved there are no sensory symptoms. The anterior horn is purely motor and trophic. Deep reflexes are lost. Sometimes the disease continues to progress in an upward direction involving bulbar nuclei and terminating fatally.

In paresis Wassermann of blood is positive in 88.2 per cent, and spinal fluid with larger than .2 spinal fluid positive in 100 per cent. Globulin is increased in 95 to 100 per cent,

lymphocytosis is positive in 95 per cent.⁵

Colloidal gold curve is in the paretic type and is the most reliable laboratory test for general paresis. When the Wassermann test is doubtful or absent the Lange test may give a positive finding while it is never positive in nonparetics. In taboparesis laboratory findings are the same as in paresis. In syphilitic progressive muscular atrophy in a number of cases Wassermann of the blood will be negative. Lymphocytosis is increased and the globulin and Wassermann are positive on the spinal fluid.

Of all luetic disease of the nervous system paretics very frequently show the so-called "Wassermann fast" type. In this type the blood serum does not change from a positive while the spinal fluid frequently becomes negative under treatment.

There is no doubt that in the majority of cases of neurosyphilis clinical improvement shows an improvement in the blood picture and the spinal fluid, and the cell count is the one phase that is rapidly influenced by specific therapy. It is possible that an occasional patient with neurosyphilis will show blood and spinal fluid negative. In suspicious lesions the so-called "provocative Wassermann" is very useful. By intravenous injection of salvarsan a negative blood may change to a positive.

In some cases, as gumma of the brain, syphilitic progressive muscular atrophy, and in others which give a picture of nonspecific origin, or when neurological symptoms have not presented, to make definite diagnosis without laboratory assistance is impossible.

As we know, neurosyphilis may begin in the secondary stage or a few months after the cessation of secondary symptoms. The Wassermann test on the spinal fluid should be done on every syphilitic because the presence of lymphocytosis in the spinal fluid, in the opinion of some writers, is an early symptom of existing or coming neurosyphilis, therefore spinal puncture should be done early and frequently since the prognosis of syphilis depends upon the administration of antisyphilitic treatment early.

State Hospital No. 3.

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THE WORK OF THE WOMAN'S AUXILIARY *

MRS. A. B. McGLOTHLAN

ST. JOSEPH, MO.

It is a privilege to respond to the invitation of your Secretary to present to the House of Delegates of the Missouri State Medical Association a brief resumé of the work of the Woman's auxiliaries.

When the Woman's Auxiliary to the American Medical Association was organized, perhaps the foremost consideration in the minds of those promoting its organization was its social value within the medical profession itself. Some of the leaders in the state medical associations have said that since there are forces within the profession as well as without which are working against its best interests, the time has come when much thought should be given to bringing about unity and solidarity in the profession. Because the social instinct is, generally speaking, more highly developed in women than it is in men, it is felt that doctors' wives can perform a distinct service to the medical profession by helping to develop unity through fellowship between members of the doctors' families.

The secretary of a state medical association recently said: "It is ten years since we asked the women in our state to form an Auxiliary. We felt the need of such an organization, chiefly as a means of creating better fellowship among the members of the profession. We have found that it admirably fulfilled its social function. Wives have become acquainted, many difficult situations eased, many jealousies especially in smaller communities have been erased and the attendance at medical meetings has been increased tremendously." Similar reports coming from many counties indicate that the auxiliaries are performing a valuable service in this field alone.

Very soon after auxiliaries began to be organized the groups discovered that merely meeting together in a social way did not create sufficient satisfaction to hold them together;

* Read before the House of Delegates, Missouri State Medical Association, Jefferson City, May 23, 1932.

that there must be activities in which they could participate. Thus, the philanthropic function developed. The groups found out what were their community's needs and undertook to perform a further service by meeting one or more of these needs, which were usually related to the work of the medical profession.

The philanthropic work of the auxiliaries is as varied as the needs of the various communities or states. Because of women's age-old interest in charity and philanthropy and because of the varied needs of different states and communities, the National Auxiliary, while recognizing the value of philanthropic interests, does not promote a philanthropic program.

The reports from states show the following types of work being done: The Pennsylvania Auxiliary contributes to a medical benevolence fund for the care of aged and infirm physicians and their dependents. The Missouri Auxiliary is this year contributing to the Andrew Walker McAlester Memorial Fund for carrying on health education. A number of state Auxiliaries have established loan funds for the education of medical students. Several of the county and city organizations in the South have assisted in establishing and supporting tuberculosis preventoria for potentially tuberculous children, while others have given service to tuberculosis open air camps and still others serve as auxiliaries to hospitals. During this year, an enormous amount of relief work has been carried on.

Many of the state auxiliaries have legislative committees which act when called upon to do so by their respective state medical societies. Instances could be given showing that the value of such service has been highly appreciated by the state medical associations.

A few of the state medical societies or state health departments have prepared studies of their health and medical laws so that the Auxiliary women and women in other organizations may be informed and able to speak or vote intelligently on such laws. In not a few instances state medical societies have asked their auxiliaries to participate actively in influencing legislation for basic science laws or other medical or public health laws.

The Florida Auxiliary, supervised by the State Board of Health, in 1931 issued a course on the medical and health laws of Florida which was to be used as a study course in the auxiliaries of the state. The Georgia Auxiliary was active in 1931 in getting out information on the Ellis Health Law to provide a health officer and board of health for each county and in having the law safeguarded where it was operating. The health and medical laws of Kentucky were compiled by the

state auxiliary in the form of nine studies which were extensively used by federated clubs and other organizations on their study programs.

It is apparent that if an auxiliary is to be an intelligent "reserve force" it must be informed on the medical and health laws and regulations of its own community and state.

It should be stated here that the policy of the Advisory Council of the American Medical Association is "that the attitude of an auxiliary in legislative matters should be based on instructions received from the proper officers of constituent state medical associations concerned."

The immense strides which the medical profession has made in recent decades in the discovery of the causes, the cures and the methods of prevention of disease have far outdistanced the ability of people generally to make practical application of the discoveries which have been made for their benefit.

The medical profession has promoted periodic health examinations of individuals, both children and adults, preschool clinics and health centers have been established and physical examination of school children has come to be considered one of the school's essential duties.

These examinations have revealed the greatness of the gap between medical knowledge and its practical application in everyday life. Records of percentages of discovered defects have been published in thousands of publications and have been broadcast over the world through literature and by the radio.

The people of the United States being reasonably literate and intelligent are becoming health conscious and many are seeking information concerning the prevention of diseases. Faddists and fakers have preyed upon this awakened health consciousness with false information and quack cures; commercialists have made capital of it by advertising that their wares possess peculiar health-protecting properties; certain species of commercial writers have seized upon it to fill columns of newspapers, pages of magazines and even whole pamphlets or books with unauthentic or pseudoscientific information.

An unwary and indiscriminating public is the victim. The great pity of the situation is that the public does not know that it is being victimized and having easy access to little besides such misinformation as that just alluded to, it frequently aids and abets legislators in making undesirable health laws and medical practice regulations for all the people.

The public has gone "floundering off from scientific medicine" because we have not been

sufficiently diligent in providing for them the right kind of information concerning the prevention and cure of diseases, and in securing their cooperation in the promotion of community health.

Practically all important organizations of today, groups organized to promote general social progress—the number of which is legion—have the promotion of health as a part of their program.

In most of such organizations of men, members of the medical profession have the opportunity to participate, if they care to do so, and to guide the thinking and planning of the group into activities consistent with modern scientific knowledge.

But doctors, even the specialists in preventive medicine, our public health men, do not have access to women's organizations except by special invitation which it is to be regretted is not frequent enough.

These organizations which number their memberships by the millions are a powerful educational force; many of their members steer the destiny of a family; each one has a vote and is, therefore, an influence for good or bad legislation.

A questionnaire sent by an Auxiliary member last year to doctors' wives to ascertain to what extent they are members of other women's organizations revealed that most of them belong to one or several such organizations.

Outstanding leaders in the medical profession and in the auxiliaries believe that the women of doctors' families are performing a very distinct service to the profession by meriting and attaining to leadership in the other women's organizations to which they belong, by interpreting particularly the preventive work of the medical profession, personal and public hygiene, and by bringing about community cooperation in health work under professional guidance.

Reports of this kind of educational work by the auxiliaries through other women's organizations show that it is constantly growing and that the medical societies and boards of health are increasingly recognizing its value. Several state medical societies cooperating with their state boards of health have prepared courses of study for use in auxiliaries, in federated clubs and parent-teacher organizations, and the auxiliaries have promoted their use. The pamphlet published by the National Tuberculosis Association entitled "Go to Your Doctor Before He Comes to You" has been used extensively this year and a pamphlet published by the New Jersey State Medical Association entitled "The Relation of the Medical Profession to the Public" has also been furnished

free by that state medical association and widely distributed by the auxiliaries.

More than five thousand of the National Auxiliary study leaflets on the common communicable diseases have been ordered this year for use in auxiliaries, parent-teacher associations and federated clubs.

A few of the leaders in the National Auxiliary have been pioneers in work with other women's organizations. In one state three members of the health committee of the State Congress of Parents and Teachers were Auxiliary women who did outstanding work in physical, mental and social hygiene, distributing literature, planning programs and securing speakers.

This year the program chairman of the Oregon State Auxiliary is chairman of the health committee of the Portland Federation of Women's Clubs; in Missouri, the State Auxiliary President-Elect is president of the Missouri Federation of Women's Clubs; the president of the Minneapolis Auxiliary is the public health chairman, Fifth District, Minnesota Federation of Women's Clubs. The leaders in almost every Auxiliary are also leaders in other organizations of women, and have frequent opportunities to carry on the Auxiliary public relations functions in these groups.

A review of the work reported by the state auxiliaries at the Detroit and Philadelphia conventions and recorded in the "Minutes and Reports" of these conventions, as well as that reported at our recent convention in New Orleans, reveals that an astonishing amount of public relations work is being done by the auxiliaries. The Arkansas Auxiliary made a concerted effort to encourage birth registration and distributed leaflets on communicable disease control to parent-teacher associations, preschool clubs, study clubs and health units throughout the state. The California Auxiliary has had many excellent programs by physicians and health officers which were open to the public. The Georgia Auxiliary has a health film committee which provides this form of education to all units which ask for such service, and the units actively cooperate with parent-teacher associations and women's clubs in promoting the correction of physical defects of children, in annual health examinations for servants, in campaigns for the eradication of the mosquito and the experimental work in trachoma. In Kentucky in addition to studying the medical and health laws of the state and promoting such study in other women's organizations, the Auxiliary has made wide distribution of the leaflets on "Communicable Disease Control," and promoted an essay contest among school children on "The County

Health Unit" using the Auxiliary leaflets as a text. The District of Columbia Auxiliary cooperates with the District Medical Association in a health education program by giving publicity to the meetings to increase attendance. The Caddo Parish, Louisiana, Auxiliary at least once each year arranges for doctors as speakers at all parent-teacher meetings. In co-operation with other clubs this Auxiliary arranges a May Day program when doctors speak over the radio and give addresses in all the schools. In Minnesota, the Auxiliary cooperated with the Minnesota Public Health Association in its "Tuberculosis Foe of Youth" contest among high school students. The Missouri Auxiliary supplies health literature for about nine hundred parent-teacher associations in the state as well as for the federated clubs of the state, and for the county superintendents in some counties for use of their teachers in the schools. In Virginia, the public relations chairman cooperates with the Y. W. C. A., women's clubs, parent-teacher associations and educational associations in sponsoring health lectures. Texas forges ahead in promoting birth registration, annual physical examinations, child health programs and hay fever prevention by means of weed eradication.

In Pennsylvania one of the outstanding bits of work promoted is that of periodic health examinations. The following is the appeal sent out by the chairman:

"One out of six applications for life insurance is declined or postponed. The annual health audit will detect albumin or sugar, high blood pressure, slight cardiac disorder, incipient tuberculosis, beginning neoplasm, and any and everything else. Your family physician will do the rest. Why does it profit a person to be an ostrich with his ailments, or like the Spartan youth to hide a disease until it gnaws out his vitals? Get the disease before it gets you. Get it early. Get it before you think you have it.

"People have too long had such faith and confidence in their physician that they think he can cure anybody who has not been dead over three days. The profession admires the faith of their clientele, but dislikes to be put in such superlative and unequal tests.

"If elevators are inspected regularly, why not one's mouth and teeth? If a boiler must be examined regularly, why not your heart and lungs? You have tested the brakes on your car, why not the kidney function? You have your watch regulated, but not your diet. You have your batteries charged, but let your weight run down from disease.

"Should the most complex and wonderful machinery in the world, that not made with

hands, be allowed to become broken or impaired, to corrode or degenerate? Neglect your business if you must, neglect your golf if you can, neglect your wife if you dare, but don't neglect your physician and a yearly physical examination and health inventory on your birthday."

For many years one of the chief activities of the Auxiliary has been the promotion of the circulation of *Hygeia* as a means of health education for Auxiliary members and for the public.

At the Philadelphia Session the House of Delegates of the American Medical Association passed the following resolution:

WHEREAS, The periodical *Hygeia*, the health magazine published by the American Medical Association, is the only authentic health periodical available in this country; and

WHEREAS, This periodical was established by the Board of Trustees on recommendation of the House of Delegates to be the official voice of the American Medical Association in educating the public in matters of health; and

WHEREAS, It is the best medium for reaching the teachers of the young, and the pupils in schools throughout the country, informing them of the progress of medical science and of scientific means for the prevention of disease; therefore be it.

Resolved, That the House of Delegates urge the Woman's Auxiliary to the American Medical Association, including the county, state and national organizations, to recognize as one of its chief activities the promotion of the distribution of this publication through parent-teacher associations, boards of education and similar bodies interested in education.

Because many members of the American Medical Association feel the need of a method of authentic education of the laity so that the public may understand the difference between scientific information and quackery and because one of the principal duties of the doctor is the prevention of disease, the American Medical Association publishes the health magazine, *Hygeia*, and asks the Auxiliary to make the promotion of its circulation one of the Auxiliaries' chief activities.

It is encouraging to know, "that during the year beginning January 1 and ending December 31, 1931, the number of subscriptions secured by auxiliaries was 50 per cent larger than during the previous year, and that the Woman's Auxiliary was the only source from which subscriptions were received that showed an increase over the previous year. One hundred forty-seven of the 387 units have participated in the work of promoting *Hygeia*."

This successful effort of the Auxiliary to carry out the request of the House of Delegates is an outstanding example of what the units all over the United States can do and

are doing to extend the aims of the medical profession in matters looking to the advancement of health and health education.

If there are yet doctors who are fearful that the type of work being done by the Auxiliaries may be a case of "the tail wagging the dog," I might arrest their fears by telling them that our medical societies are being urged to appoint advisory councils, to which the Auxiliaries may go for counsel and advice. All the work referred to in this article has been done at the suggestion or with the approval of the advisory councils of the respective medical societies concerned.

Our records show an increase of almost 20 per cent in our National Auxiliary membership during this year. Washington state was organized in February and now has considerably more than four hundred members. There are now thirty-eight states and the District of Columbia auxiliaries with a membership of approximately 14,000.

I shall close with the following pertinent quotation from a past president of the American Medical Association: "Wherever the medical fraternity has held out a helping hand to the Woman's Auxiliary it has been gratified to find that the work of the Auxiliary flowed along safe and helpful channels, and the results proved worth while."

821 North 24th Street.

VITAL FUNCTION STUDIES: IX. FAILURE OF HEARING IN THE YOUNG: STUDY OF RURAL COMMUNITY

A group of 2,078 children from a typical New England rural district were examined by Allan Winter Rowe and Dana W. Drury, Boston (Journal A. M. A., April 30, 1932), for hearing acuity by an approximate method, and 28 + per cent, or 590, were found to have probable impairment. Further examination by a more accurate method confirmed the report in 276 cases, the others showing normal hearing. Ear, nose and throat examination showed that thirty-six of the impaired group required further study for physical reasons, while all the remainder demonstrated conditions correctable by the school health authorities. Psychometric study of the latter group showed fifty children with established or possible mental retardation for whom further diagnostic study was recommended. Half of the combined referred groups were given thorough diagnostic investigation. All were deaf, and practically all showed extensive focal and local infective processes. In addition, fourteen of the group exhibited an endocrinopathy, seventeen had lesions of the central nervous system, and six showed otherwise uncomplicated infections. Only half of the children reported trouble with the ears as a chief complaint, and practically two fifths did not present any complaint whatever. On the basis of their observations the authors conclude that such surveys offer a simple and easily conducted approach to a betterment of the health level of the community and toward the solution of one aspect of its general educational problem.

HUMAN SIDE OF THE HOSPITAL

JOSEPH BRENNEMANN, Chicago (Journal A. M. A.), states that after an extended experience with a dozen widely differing hospitals, as intern, attending physician, visitor and patient, his attitude toward a given hospital centers in the emotions, in the heart, rather than in the mind, and he believes that reaction is freely shared by others. It is not the idealness of equipment and of organization but the subtle spirit of enthusiastic and self-effacing cooperation, of steadfast, sympathetic loyalty and devotion to a common cause that is bigger than any individual, that makes hospitals. It is the atmosphere, the morale of a hospital, that makes or wrecks its reputation and its usefulness. The children may be well cared for; the medical staff may be made up of able clinicians and investigators; the superintendent may be as wise as Solomon and as "just" as Aristides, and may see that the whole machinery of administration is well oiled and the physical equipment faultless; the board of trustees and the women's board may be actively interested and may do all that could be desired in other ways; the nurses may be intelligent, faithful and well trained; the interns and residents may be well schooled and prepared for their duties, may, indeed, get up at seven and be at breakfast on time; and yet the vital spark will be lacking if there is not back of it all an all-pervading spirit of cooperation and of kindness or, as Emerson has so beautifully expressed it, "an element of love that permeates it like a fine ether."

DIETARY TREATMENT OF PSORIASIS

Jay F. Schamberg, Philadelphia (Journal A. M. A., May 7, 1932), calls attention to the statement of Schamberg, Kolmer, Ringer and Raiziss, made after a long and painstaking research nearly two decades ago, to the effect of the influence of diet on psoriasis. The very laborious, extensive and expensive studies in question resulted in the conclusion that there was a positive nitrogen metabolism in psoriasis. Accompanying this presentation of the subject was a series of "before" and "after" photographs, however, which constitute irrefutable documentary evidence of the truth of the statement that a "low protein diet" in the sense in which this term was employed has an enormous influence on the course of the psoriatic eruption. Within the period of eighteen years that has elapsed since the publication of the "Research Studies in Psoriasis," further evidence has come to the author of the verity of the foregoing statement. In only one case of psoriasis has he not been able to effect a virtual disappearance of the psoriasis eruption by diet. He presents two tables in which are given diets of different type that he has employed in the treatment of patients with psoriasis. They contain from 4 to 5 Gm. of nitrogen and sufficient calories to cover the needs of a man doing a moderate amount of work. For hard-working persons, additional butter and cream can be added. One may allow plenty of sugar, and candy may be permitted between meals. These two diets give an idea of the way dietaries of this nature can be arranged, without losing sight of the necessity of a certain amount of variety in the menu. Oysters and ice cream may be added to the diet, as they contain very little nitrogen. To meet individual tastes, substitutions can be made. Berries, asparagus, broccoli, pears and like foods may be inserted in the dietary instead of cabbage and turnips and some of the fruits mentioned.

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SEPTEMBER, 1932

EDITORIALS

THE GOVERNMENT COMPETES

Competition has become a common cry against the Government. In many cases the Government has gone into enterprises to remedy evils but not always has the treatment cured the disease. In fact, after the Government has undertaken the correction of a malady in the body politic its usefulness as a healer has too often not only proved futile but even disastrous. Such is the case in the medical care of veterans.

So great has become the criticism of bureaucracy against the Government that Representative Joseph B. Shannon, Kansas City, Missouri, introduced a congressional resolution calling for hearings on governmental competition with private businesses. Representative Shannon has conducted these hearings at various points in the country, including Kansas City where the question of medical care of veterans was brought before him. Dr. E. H. Skinner, Kansas City, himself a World War veteran, represented the Jackson County Medical Society and presented figures to show how the Government in treating nonservice disabilities of veterans is competing with the medical profession and with private hospitals. He stated that 17.24 per cent of the cases treated in veterans' hospitals in 1925 were nonservice cases and by 1931 the number of nonservice cases treated in veterans' hospitals had grown to 77.9 per cent.

Thousands of men receiving compensation from the Government were never in France and never saw a military enemy. Among them are 15,000 men who were enlisted between November 11, 1919, and July 2, 1921, to garrison our coast defenses and relieve war veterans at Coblenz. This class of compensated men already exceeds the number of dead and wounded in the war and is increasing at

the rate of ten thousand a year, and all are entitled to free medical care.

While 77.9 per cent of the work in veterans' hospitals is for nonservice disability, 50 per cent of the hospital beds in Kansas City are vacant and one hospital was recently closed because of the lack of patients, Dr. Skinner pointed out.

No one would or should protest against the Government paying the full cost of caring for men who suffered injury or disease contracted or brought on by service in the war, no matter what the cost nor the time required for recovery. While it may seem that this service could have been rendered in civil hospitals, thus stabilizing them, the effect upon private hospitals or upon the funds of the public would be unimportant if veteran hospitalization had been held to its legitimate scope.

At present, veterans are attempting to have more hospitals erected which would cost approximately two hundred million dollars a year for maintenance. It is estimated that under present conditions it costs \$3500 to establish a hospital bed for a veteran and \$1500 a year to maintain it, thus requiring in excess of four billion dollars to hospitalize the exservice men until 1950. This is the amount needed unless Congress should open the hospitals to the relatives of veterans, which is being attempted by a strong movement. As a man grows older his resistance to sickness diminishes. In 1930 the average age of the veteran was 38. In 1950 the average age will be 58 and, correspondingly, an increased demand for hospitalization will naturally arise.

If there were even a possibility that these hospitals were necessary to care for veterans with war contracted injuries or disease physicians would not have nearly such good ground for criticism, although civilian practice and civil hospitals should have consideration.

During the war the medical profession contributed more heavily in proportion to numbers than any other profession excepting possibly engineers, Dr. Jabez N. Jackson, Kansas City, representing the American Medical Association, pointed out at the hearing. He said the profession contributed 30,000 commissioned officers to the medical corps in the war as compared with 300 physicians in the army when the war started.

Dr. Skinner pointed out that many prosperous exsoldiers are receiving hospitalization and free medical care for civilian diseases only and stated it would be no more illogical to give them free automobiles and free groceries.

Representatives from veteran organizations

defended the present system of hospitalization for former service men. Each veteran specified, however, that he was referring to men injured in military service and not to veterans whose disabilities were incurred after their return to civilian life. That sounded a little hopeful, for the principal cry of the taxpayer and the physician is against the exservice man who is being treated for a nonservice ailment. On the other hand, the veterans still work for the increase in veterans' hospitals to care for the 77.9 per cent of veterans being treated for diseases and injuries of purely civilian origin.

Representatives of the Disabled American Veterans, the American Legion and Veterans of Foreign Wars stated that the military atmosphere and presence of comrades made a Government-maintained hospital more desirable for exservice men. They also expressed a belief, and in one case charged, that veterans had suffered from "gross neglect" in contract hospitals where they were treated before the present system of veterans' hospitals was established. In striking contrast is the graphic picture drawn by Walter Davenport in *Collier's* for August 20, telling of the experiences of physicians in military hospitals. He relates the stories of insubordination of veterans in military hospitals, their refusal to follow instructions and deliberate failure to cooperate with the physician. The ribald behavior of many veteran patients when they receive their monthly checks from the Veterans' Administration rivals some of the scenes in Oklahoma towns when the Indians receive their allotment from the Government.

Each soldier spokesman digressed from the subject at hand to make a vigorous plea for full payment of adjusted compensation.

At the present rate of increase the Veterans' Administration expects to be paying pensions to 561,000 exservice men by June 30, 1933, for disabilities in civil life unrelated to any military service. And it follows that free medical service is to be available to them.

Some courageous Congress may restrict medical care of veterans to cases arising from war service or the taxpayer (of whose money 26.1 per cent is going to veterans and their families as compared to 5.8 per cent in England and 17.5 per cent in France) may demand free hospital treatment for every citizen in the United States. What that would mean to the medical profession is thoroughly understood by every practitioner. This must be the only ultimate outcome unless the medical profession and others who are victims of governmental competition can force Congress to halt the mad

plunge of the Government into ruinous competition with private businesses.

The bankers, dyers and cleaners, commission merchants, civil engineers and other industries were represented at the hearing and protested vigorously against governmental competition with their private businesses.

The taxpayers are a large and unorganized group; both political parties shrug their figurative shoulders at the veterans' problem, so it appears to be up to that organized group who not only are hurt by high taxation but whose very business is threatened to make the fight against a governmental bureau that has so far overstepped its usefulness as to become a serious menace to the financial status of the country.

THE TUBERCULOSIS SURVEY

At the Jefferson City Session in May the Council sponsored a movement inaugurated by the Missouri Tuberculosis Association to make a tuberculosis survey of the State in conjunction with the Missouri Tuberculosis Association, the State Board of Health, the State Eleemosynary Board and the staff of the Sanatorium for the Tuberculous at Mount Vernon. County society secretaries have received a letter on this subject with a questionnaire containing six questions the answers to which will form the basis of plans for active work. All members are requested to cooperate with the secretaries of the county societies in collecting the information called for in these questionnaires. All councilors also have been informed of the movement and have been requested to supervise the work of gathering the information.

It is estimated that in Missouri there are to-day approximately 25,000 cases of tuberculosis. During 1930 there were 2500 deaths from this disease. Of the 12 states in the Mississippi Valley Sanatorium Area, Missouri has the highest mortality rate from tuberculosis, namely, 70 per 100,000 of population. The State Sanatorium at Mount Vernon was established for incipient cases but 50 per cent of its admissions are far advanced. A thorough survey of the whole State, urban and rural, is urgently indicated to determine more accurately the number of cases of adult and childhood tuberculosis in the State. It is only by knowing the identity, residence, occupation and habits of the open cases of tuberculosis that the profession can aid in reducing the incidence and the spread of tuberculosis.

The control and prevention of disease are today among the chief functions of the medical

profession and of organized society. To fulfill such functions cooperation is necessary. The organizations named, by common understanding and united effort, can aid materially in the important problem of controlling and preventing tuberculosis. Furthermore, in line with a thorough survey of the tuberculosis problem in the State, it is believed that a program of education is of first importance. The medical profession needs to be more specifically educated in the essentials of diagnosis and treatment of both adult and childhood tuberculosis, and the public in general needs information and advice for their protection.

To put over such an educational program, the State Medical Association has a department of postgraduate instruction; the State Board of Health has its district officers and a small nursing force; the State Tuberculosis Association has its secretary; the State Eleemosynary Board has its tuberculosis sanatorium staff of physicians and nurses. With the approval of the president of the Eleemosynary Board, the staff of the Missouri Tuberculosis Sanatorium will assist in the survey and the campaign of education. Specifically, the staff will prepare and give a course of twelve lectures upon the essentials in diagnosis and treatment of tuberculosis. These lectures will be given to the medical profession in the councilor districts and if desired before lay organizations. Members in St. Louis and Kansas City and other large centers who are especially interested in tuberculosis will, of course, cooperate with the staff of the sanatorium in developing this course and deliver some lectures. With a plan and program along constructive lines and with proper publicity a distinct advance can be made in the fight against tuberculosis.

NEWS NOTES

Dr. J. Albert Key, St. Louis, was the guest of the Wyandotte County (Kansas) Medical Society September 13 and delivered an address on "Arthritis."

The construction of the City Hospital for Negroes at St. Louis will be begun about the middle of September. The service building will be the first to be erected at a cost of \$254,088. The building will be 250 ft. long, 102 ft. wide and two and one half stories high. When completed the several units will house 300 patients. The present hospital for Negroes is a fire trap and overcrowded.

Dr. Richard L. Sutton, Kansas City, returned August 3 from a three-months' cruise of northern seas on which he was accompanied by Mrs. Sutton, their daughter, and son, Dr. Richard L. Sutton, Jr. Two hooded seal pups were brought back and presented to the Swope Park Zoo, Kansas City.

Dr. W. McKim Marriott, St. Louis, dean and professor of pediatrics, Washington University School of Medicine, began a series of lectures and clinics in the University of California School of Medicine late in August. His schedule will include eighteen addresses and clinics and ward rounds. He will return to St. Louis late in September.

For the first time in several years the War Department will hold an examination to fill vacancies in the Medical Corps of the Regular Army. Successful applicants will be ordered to active duty at an army general hospital for one year and those demonstrating their ability will be commissioned to fill vacancies. The examinations will be held September 12 to 16 in twenty-six cities including St. Louis.

During the ten years of the existence of the Health Organization of the League of Nations, those wishing to follow its work have been obliged to consult various documents, such as the records of international conferences, the minutes of committees, reports by experts and annual reports. In order to make this material more accessible and more widely known, a quarterly bulletin is being issued in both English and French. It is not an official organ of the Health Organization and the Health Organization does not assume any responsibility for the opinions expressed therein unless otherwise stated, but it does give a review of the work done by the organization. Bulletins were issued in March and in June.

Flat rates for medical service at the Western Reserve University hospitals, Cleveland, were announced July 24. The rate includes costs for room and board, regular nursing service, operating room, laboratory and roentgen ray service and formulary drugs. Patients receiving hospitalization will in this way know in advance the exact cost. If the patient remains a shorter time than had first been considered necessary refund will be made on a per diem basis and the same basis will apply for any patient who must stay longer than anticipated. The rates are so set as to be about the exact cost of service.

Dr. M. Pinson Neal, Columbia, professor of pathology, University of Missouri, was invited to spend the summer quarter at the University of Tennessee School of Medicine, Memphis, as acting professor of pathology and bacteriology. He is also acting director of the laboratory service of the Memphis General Hospital, the teaching hospital of the medical school. Dr. Neal will return to his duties at Columbia late in September.

The Bone and Radiological Conference held under the auspices of the surgical and pathological laboratory of Johns Hopkins Hospital will convene at Johns Hopkins University, Baltimore, September 19 to 24. The first day will be devoted to subjects dealing with the jaw, teeth and oral cavity; the second day to the jaw, giant cell tumor and Ewing's sarcoma, and the last three days will be given over to the main bone demonstration.

The St. Louis County Hospital cared for 3333 patients during its first year ending July 20, according to the preliminary report of Dr. Eugene Scharff, superintendent, submitted late in July to the St. Louis County Court. The report shows 485 major operations and 345 births in the hospital. Due to the depression the majority of patients were charity cases. The hospital received a total of \$32,594.90 in fees and expenditures totaled \$199,786.28. No additional taxes were levied to support the hospital, the funds being drawn from an appropriation made annually for the indigent and insane.

Among St. Louis members of the profession who received appointments and promotions in the St. Louis University School of Medicine for the ensuing year were included Drs. Daniel L. Sexton, Emanuel Sigoloff, John J. Hammond and Anthony J. Brennan, instructors in internal medicine; Drs. George H. Koenig and Neil S. Moore, in urology, and Dr. Carl F. Vohs, in orthopedic surgery. Among assistants appointed were Drs. Raymond O. Muether, J. H. Ready and Carl J. Reis, in internal medicine, and Drs. Samuel J. Freund and Thomas E. McGurk, in surgery. Dr. Bernard W. Gerwitz received the Mother Odelia fellowship in gynecology and obstetrics. Dr. Howard L. Lange was appointed Mead Johnson research assistant and Dr. Peter G. Danis to the Mead Johnson Graduate fellowship in pediatrics. Dr. Raymond O. Muether was appointed Eli Lilly research assistant in internal medicine.

The following articles have been accepted for New and Nonofficial Remedies:

Livermeal Corporation

Liver Meal

H. A. Metz Laboratories, Inc.

Triphal

Ampules Triphal 0.025 Gm.

Ampules Triphal 0.1 Gm.

National Drug Co.

Scarlet Fever Streptococcus Toxin for the Dick Test

Scarlet Fever Streptococcus Toxin for Immunization

Scarlet Fever Streptococcus Antitoxin

United States Standard Products Co.

Rabies Vaccine—U. S. S. P. (Semple Method), seven vial packages

Rabies Vaccine—U. S. S. P. (Semple Method), twenty-one syringe packages

The medico-military course of inactive duty training for Medical Department Reserve Officers which has been held at the Mayo Clinic the last three years, will again be held this year from October 16 to 29, both dates inclusive. This inactive duty training will follow the plan worked out under the auspices of Colonel George A. Skinner and the military features will be under his personal supervision.

The Mayo Clinic has placed all its clinical material, laboratory, museum and library at the disposal of the Medical Department Reserve Officers taking this inactive duty training. The faculty and staff of the Mayo Clinic have volunteered to give their services free in the interests of national defense.

This short course is equally applicable to general practitioners and specialists. The morning hours are devoted to purely professional subjects selected by the student officers. The afternoon hours pertain solely to medico-military subjects and the evening hours are covered in a lyceum course of general interest.

Application for this course of inactive duty training should be made either to the Director of the Mayo Foundation, Rochester, Minnesota, or to the Corps Area Surgeon, Seventh Corps Area, Omaha, Nebraska. Applications should state the character of the work the candidate desires to follow in the morning hours. All student officers are expected to attend and to participate in the afternoon and evening sessions. Two hundred hours' credit will be given to those who take and complete the course. The course is given by the Mayo Clinic without charge to the physician attending or to the Government.

The September session of the Kansas City Southwest Clinical Society will be held September 13 at Bethany Hospital, Kansas City, as a joint meeting of Bethany and St. Margaret's hospitals. Dr. J. Albert Key, St. Louis, professor of orthopedic surgery Washington University School of Medicine, will be the guest speaker and will hold a clinic on arthritis. This will be the last meeting of the society before the annual Fall Clinical Conference October 3 to 8.

The De Paul Hospital, St. Louis, held a thanksgiving mass August 15 in commemoration of the second anniversary of the formal opening of the hospital. The institution, together with seven others, is conducted by the Daughters of Charity of St. Vincent de Paul. A certificate of merit and a bronze tablet recently were awarded the hospital by the St. Louis Chamber of Commerce as being one of the show places of the city because of its architectural beauty and the high type of hospital construction and equipment.

The International Assembly of the Interstate Postgraduate Medical Association of North America will be held in Indianapolis, October 24 to 28, with headquarters in the Murat Theater and Shrine Temple.

The program includes lectures by many authorities and diagnostic clinics and motion picture demonstrations. The mornings will be devoted to diagnostic clinics. While the program is not limited to symposia there will be groups of lectures on gallbladder and liver, otolaryngology, abdomen, intestines, pediatrics, and the genito-urinary system.

Missouri members of the profession who will appear on the program and their subjects include Dr. Elsworth S. Smith, St. Louis, "Prognosis and Treatment of Ambulatory Cases Presenting the Anginoid Syndrome," Dr. David P. Barr, St. Louis, "Parathyroidism," and Dr. W. McKim Marriott, St. Louis, "Poliomyelitis." Dr. Marriott will conduct a pediatric clinic and Dr. Barr and Dr. Smith will each conduct a medical clinic.

Reduced rates on the railroads will be in force under the certificate plan. Physicians wishing to take advantage of the rate should ask the ticket agent for a certificate, not a receipt.

Hotel headquarters of the meeting will be the Claypool Hotel and Dr. Julius H. P. Gauss, 408 Chamber of Commerce Building, Indianapolis, is chairman of the hotel committee.

All members of the profession who are in good standing are invited to attend the meeting. A major list of the names of the contributors to the program, with other information appears on advertising page 13 of this issue of *THE JOURNAL*.

The Missouri Tuberculosis Association will hold its twenty-fifth anniversary meeting at Jefferson City, September 20-21, 1932. The general sessions will be held in the House of Representatives and the clinical sessions in the Senate Chamber. Dr. George H. Hoxie, Kansas City, president of the Association, will preside.

The program follows: "The Early Diagnosis of Pulmonary Tuberculosis in the Adult," by Dr. E. E. Glenn, Mount Vernon. "Childhood Tuberculosis: Its Diagnosis and Treatment," by Dr. Hubert M. Parker, Kansas City. "Plan for a General Tuberculosis Hospital," by Dr. L. J. Schofield, Warrensburg. "Cooperation of the Medical Profession and Tuberculosis Associations," by Dr. John H. Timberman, Chillicothe. "Artificial Pneumothorax," by Dr. Sam Snider, Kansas City. "The Importance of Rest in the Treatment of Tuberculosis," by Dr. George D. Kettelkamp, St. Louis. "Methods of Procedure for Admitting Patients to Public Institutions," by Dr. James Stewart, Jefferson City. "The Need of More Sanatorium Beds and the Depression," by Dr. H. I. Spector, St. Louis. "The Tuberculosis Problem of Southeast Missouri," by Dr. W. W. Johnston, Cape Girardeau. "The Open Air School," by Dr. William Weiss, St. Louis. "Protecting the Contact Case," by Dr. Jesse E. Douglass, Webb City. "Health Education in the Home, School and Community," by Dr. Joseph S. Summers, Jefferson City. "Health Education," by Dr. D. T. Bowden, Rolla. "Mental Care of Patients in State Institutions," by Dr. M. A. Bliss, St. Louis. "Care of the Mentally Defective in Missouri," by Dr. James Lewald, St. Louis.

The Social Hygiene Association will sponsor a session program in charge of Dr. R. S. Weiss, of St. Louis.

The Woman's Auxiliary of the State Medical Association will give a luncheon program at the Missouri Hotel on the twentieth. Mrs. David S. Long, of Harrisonville, president of the Auxiliary, will preside. The luncheon speakers will be Mrs. A. B. McGlothlan, of St. Joseph, and Mrs. Hudson Talbot, of St. Louis.

Dr. M. P. Ravenel, of Columbia, will be the principal speaker at the anniversary banquet on Tuesday evening.

The eleventh annual session of the American Congress of Physical Therapy will be held in New York, September 6 to 9 under the presidency of Dr. F. H. Ewerhardt, St. Louis. Headquarters will be in the Hotel New Yorker. Joint meetings of all sections will be held each morning and sectional meetings will be conducted in the afternoons. Special sessions will be held in the evenings.

Dr. John R. Caulk, St. Louis, will address the congress on "Recent Developments in the Cautey Punch Operation for the Relief of Prostatic Obstruction"; Dr. F. H. Ewerhardt, St. Louis, will deliver an address on "Clinical Application of Abdominal Exercises. Resistive Movement in Joint Injuries," and Dr. Caulk and Dr. Ewerhardt will present a paper entitled "Clinical Report on the Treatment of Infections of the Bladder by Direct Internal Ultraviolet Irradiation." Missouri physicians who will take part in discussions are Drs. Julius H. Frischer and G. Wilse Robinson, Jr., Kansas City, and Drs. F. H. Ewerhardt, M. A. Roblee and Victor L. Gould, St. Louis.

OBITUARY

ROBERT HENRY GOODIER, M.D.

Dr. Robert H. Goodier, Hannibal, a graduate of the Missouri Medical College, 1888, died after a few days' illness in Levering Hospital, Hannibal, July 22, aged 71.

Dr. Goodier was born at Florida, Monroe County, Missouri, where for many years his father, the late Dr. James Goodier, was a prominent and successful physician.

His early education was received in New Florence and Central College. It was in Central College as roommates that the friendships and intimacies of life developed in the writer of this article. Nothing of the especially brilliant in these careers grew out of this association but the months were spent both pleasantly and profitably together. Dr. Goodier's standing as a Christian gentlemen and as a prominent physician continued throughout his life. He was an active Mason.

He located in Hannibal where he became one of the prominent and successful physicians being widely known throughout Northeast Missouri as a doctor of unusual ability. With the exception of a few years spent at Stouts-ville and Monroe City, he practiced entirely in Hannibal.

Dr. Goodier's ability as a physician was early recognized throughout Missouri, and during the administration of the late Governors

Alexander Dockery and Joseph W. Folk, he served as a member of the state board of health.

Dr. Goodier was until the last few years of his practice very active in the medical society affairs. He was elected president of the State Medical Association in 1911 and presided at the Sedalia session in 1912.

Of late years my relation with Dr. Goodier had not been very close and I am unable to give the more intimate side of his life. His wife had preceded him in death and a daughter, Mrs. R. F. Rucker, East St. Louis, survives him. These memoirs are given for a friend who I know was deserving.

C. S. AUSTIN, M.D.

WILLIAM ALVIN PORTER, M.D.

Dr. Wm. A. Porter, Higginsville, a graduate of the Medico-Chirurgical College of Kansas City, 1903, died after an illness of several months on July 2, aged 60.

Dr. Porter was born in Johnson County and received his early education in the public schools of that county.

After completing his medical education he practiced in several communities before he went to Higginsville. He was a member of Lafayette County Medical Society for many years and was elected an Honor member in May of this year.

Dr. Porter's solicitude for the communities in which he lived extended beyond merely his obligations in a professional way. He was always interested in civic and political affairs and took an active part in the promotion of all worth-while enterprises. He filled many offices of public trust to which he was called by his confiding friends. He served as constable of Grover Township in Johnson County, was alderman in Sedalia, coroner of Moniteau County, member of the school board and mayor of Tipton. He served three consecutive terms in the legislature as Representative from Lafayette County. In 1921 he was appointed physician at the Confederate Soldiers Home, Higginsville. When he retired from this position he continued the practice of his profession in Higginsville as long as his health would permit.

While his death had been expected for a long time, the announcement of his going brought deep sorrow to his family and to his many friends, both in Higginsville and elsewhere. In his death the community lost a valued citizen and a good friend.

Dr. Porter is survived by his widow, Mrs. Bessie Porter, a son and a daughter.

CHARLES N. WILLIAMSON, M.D.

Dr. C. N. Williamson, Gentry, a graduate of the University Medical College of Kansas City, 1898, died at his home of apoplexy, March 15, aged 59.

Dr. Williamson was born near New Hampton, Missouri, one of seven children. He preceded his medical education by teaching in a country school near Gentry. After his medical education he located in Gentry where he continued in practice until his sudden death.

He had practiced for thirty-three years in Gentry and few people in that community have not had medical care from him. He was ever ready to answer the call for help. He was recognized as a man of integrity and sterling worth as physician, citizen and friend. He was a leader in many of the enterprises in the town and community and was for many years chairman of the board of education and was a leader in the struggle for better schools and higher education in Gentry. He had been postmaster for the past five years and was prominent in political circles and had served on many of the important Republican committees of the county and district.

He is survived by his widow, Mrs. Sophronia J. Williamson, and one son.

CESAREAN UTERINE SUTURES PASSED FROM THE VAGINA

Harry S. Fist, Los Angeles (Journal A. M. A., May 7, 1932), reports that on Oct. 21, 1931, at the Cedars of Lebanon Hospital, after a test of labor, a low cervical cesarean section was done, because of dystocia due to disproportion, on a primigravida, aged 28, in good general health. Bleeding was profuse, the placenta being located on the anterior aspect of the lower uterine segment. The uterine incision was closed with a first layer of interrupted number 2 chromic catgut sutures, a second layer of continuous number 2 chromic catgut locked suture to stop hemorrhage from the bleeding venous sinuses, and several interrupted sutures. On the eleventh day which was the second day with a temperature of 98.6 F., the nurse reported that the patient had passed a large piece of pus from the vagina. Inspection proved this to be a soft mass of yellowish tissue, encircled by the interrupted and continuous uterine sutures; in short, the uterine scar. So many convalescents from cesarean section exhibit unexplained elevations of temperature that ischemia and tearing out of the sutures is probably common but remains unrecognized. It may even occur when the temperature is normal. At any rate, the sutures are safer if the following precautions are observed: Sutures should include wide bites of tissue. They should be interrupted and loosely tied. Fluidextract of ergot or solution of pituitary should be used in small doses only, with the greatest care. A drain should be used if there is any suspicion of infection. The occurrence reported is rather rare, yet it is possible that in many cesarean cases the line of sutures sloughs out entirely or in part without coming to observation.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL FOR 1932

(UNDER THIS HEAD WE LIST SOCIETIES WHICH
HAVE PAID DUES FOR ALL THEIR MEMBERS)

HONOR ROLL

Ste. Genevieve County Medical Society,
December 16, 1931.
Miller County Medical Society, Decem-
ber 23, 1931.
Mercer County Medical Society, Decem-
ber 24, 1931.
Camden County Medical Society, January
5, 1932.
Johnson County Medical Society, Janu-
ary 20, 1932.
Dent County Medical Society, January 22,
1932.
Macon County Medical Society, February
10, 1932.
Webster County Medical Society, March
21, 1932.
Platte County Medical Society, April 7,
1932.
Pulaski County Medical Society, April 8,
1932.
Schuyler County Medical Society, April
14, 1932.
Ralls County Medical Society, April 22,
1932.
Wright-Douglas County Medical Society,
April 26, 1932.
Barry County Medical Society, May 2,
1932.
Chariton County Medical Society, May
5, 1932.
Benton County Medical Society, August
18, 1932.

CALDWELL-LIVINGSTON COUNTY MEDICAL SOCIETY

The Caldwell-Livingston County Medical Society met at Hamilton June 28 at 8 p. m., Dr. G. S. Dowell, Braymer, presiding in the absence of the president.

A series of clinical cases was presented to the Society and discussed. The guest speakers were Drs. Jabez N. Jackson and F. M. McCallum, of Kansas City, and Dr. O. Putman, Marceline.

Dr. Jackson spoke on "What Can Be Done to Improve the Results in Operations for Carcinoma of the Breast?" In presenting this subject, Dr. Jackson impressed his audience with the dire necessity of a thorough knowledge of the anatomy concerned in carcinoma of the breast and of the importance of completeness of the operation.

Dr. McCallum talked on "Vesical Neck Obstructions." He spoke of the differential diagnosis and the treatment. He stressed the importance of a thorough laboratory investigation and a complete preoperative preparedness of the patient before surgical interference.

Dr. O. Putman gave a very thorough and enlightening paper on "Medical Organization." He stressed the impending dangers to the medical profession from the various cults and irregular prac-

tioners of medicine and impressed us with the necessity of thorough organization.

These papers were highly appreciated by the Society.

The following physicians were present: Drs. G. S. Dowell, H. H. Patterson and C. L. Woolsey, of Braymer; Drs. L. M. Daley and L. J. Eads, of Hamilton; Dr. E. A. B. Thompson, Breckenridge; Drs. R. Barney, J. H. Timberman, and Donald M. Dowell, of Chillicothe; Dr. W. S. Shouse, Kingston, and Dr. C. H. Wilbur, Pólo.

D. M. DOWELL, M.D., Secretary.

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY

The Cape Girardeau County Medical Society met at Jackson July 11 in the county court room, Dr. W. H. Wescoat, president, in the chair. The following members were present: Drs. H. L. Cunningham, Sylvester Doggett, E. H. Gregory, J. J. Drace, D. I. L. Seabaugh, M. H. Shelby, J. H. Cochran, O. L. Seabaugh, C. A. W. Zimmermann, and H. V. Ashley, of Cape Girardeau; B. W. Hays, Jackson.

Dr. D. I. L. Seabaugh, Cape Girardeau, reported the case of a woman, aged 38, pregnant about 4½ months, who fell and developed severe hemorrhage, remained in bed 3½ months then continued on to an apparently normal delivery of a nine pound normal baby. Immediately following delivery a second bag of waters was delivered intact which contained a dead fetus of about 4½ months, black in color and resembling a black rubber doll. There was a single placenta with two cords attached about 2½ inches apart. Patient made an uneventful recovery. An enthusiastic discussion by all members present followed the presentation of this case.

Dr. Sylvester Doggett, Cape Girardeau, read a paper entitled "Romance of Syphilis." An interesting discussion followed participated in by all members present.

It was moved and carried that the Cape Girardeau County Court be mailed a copy of both resolutions relating to public health work as were mailed to Governor Caulfield and Senator Hawes.

M. H. SHELBY, M.D., Secretary.

JOHNSON COUNTY MEDICAL SOCIETY

The Johnson County Medical Society, in conjunction with the Lafayette County Medical Society, met at the Warrensburg Clinic, Warrensburg, August 10.

Dr. Wm. R. Patterson, Warrensburg, presented a paper on "Milroy's Disease," using a patient for demonstration. This being a very rare disease and seldom seen by general practitioners of medicine a lively interest was aroused.

Dr. John A. Powers, Warrensburg, read a paper on "Diseases of the Liver and Gallbladder." Many points of interest were brought out by the essayist, giving the members a splendid opportunity for discussion.

We give much time to discussing the papers presented to our Society and we feel that the members are much benefited thereby. An exchange of opinions is wholesome and seems to create an interest that we do not have when little or no discussion ensues. An exhaustive treatment of the subject by a writer of a paper seldom receives the response necessary to maintain interest among the members of the Society. A paper written and delivered in such a manner as to leave room for discussion

seems to be most successful in bringing out the best there is in the monthly meetings of our Society.

Dr. H. P. Haning, formerly of Purden, Linn County, Missouri, who recently located in Warrensburg to practice in eye, ear, nose and throat work, was granted membership in our Society.

A splendid attendance of doctors from both counties and a few medical students from Washington and Nebraska universities were in attendance.

County societies may be made a success if all will boost for better medicine.

O. B. HALL, M.D., Secretary.

ST. LOUIS COUNTY MEDICAL SOCIETY

The regular June meeting of the St. Louis County Medical Society was held at the St. Louis County Hospital, June 8, with the president, Dr. John H. Sutter, in the chair.

The scientific program consisted of a paper by Dr. Ralph M. S. Barrett, St. Louis, on "Evaluation of Various Anesthetics for General Surgery."

The application for membership of Dr. Loyola Hayden, Pine Lawn, was read and on motion Dr. Hayden was elected a member of the society.

A communication from the American Society for the Control of Cancer was read in which they offered literature for doctors, nurses, and patients for distribution. The literature was ordered distributed to the hospitals in the county and to members of the society.

A communication from the Missouri State Medical Association was read informing us that the House of Delegates of the State Medical Association at the Jefferson City session, May 23, had created a new Councilor District for St. Louis County to be known as the 30th Councilor District and that Dr. R. B. Denny, Creve Coeur, had been elected Councilor of the district.

The secretary was instructed to thank the Missouri State Medical Association for the honor conferred and extend our hearty approval of the election of Dr. Denny as Councilor.

The action of hospitals in St. Louis and vicinity in regard to collection of bills as published in local newspapers of June 7 and 8, was read. After discussion by Drs. J. H. Armstrong, E. O. Breckenridge, J. D. Hayward, and R. B. Denny, Dr. C. P. Dyer, Webster Groves, moved:

"That the St. Louis County Medical Society endorses the action of the hospitals in St. Louis and vicinity in their efforts to collect for hospital services from patients able to pay, especially as has been published in daily newspapers of July 7 and 8, and that the publicity committee be instructed to publish these facts regarding abuse of charity; also, that the publicity committee have power to spend a reasonable sum of money if necessary to inform the public that the St. Louis County Hospital offers free services for indigent cases only."

The motion was seconded by Dr. R. B. Denny, Creve Coeur, and adopted unanimously.

M. S. KIM and A. C. IVY, Chicago (Journal A. M. A.), observed that duodenal ulcers occurred spontaneously in six of ten dogs with biliary fistula. In seventeen biliary fistula dogs (about 25 pounds in weight) receiving 15 Gm. of neutral gastric mucin twice daily with their food, no ulcers developed. On the basis of these observations, the authors conclude that the administration of mucin prevents ulcer formation in dogs with biliary fistula.

WOMAN'S AUXILIARY

Officers 1932-1933

President, Mrs. Davis S. Long, Harrisonville.
President-Elect, Mrs. Hudson Talbot, St. Louis.
1st Vice President, Mrs. W. H. Goodson, Liberty.
2nd Vice President, Mrs. S. P. Howard, Jefferson City.
3rd Vice President, Mrs. Ola Putman, Marceline.
4th Vice President, Mrs. W. H. Breuer, St. James.
Corresponding Secretary, Mrs. M. P. Overholser, Harrisonville.
Recording Secretary, Mrs. Howard B. Goodrich, Hannibal.
Treasurer, Mrs. James F. Owens, St. Joseph.
Auditor, Mrs. L. S. James, Blackburn.
Directors (1 year), Mrs. George Ruddell, St. Louis; Mrs. L. H. Callaway, Nevada; Mrs. H. W. Carle, St. Joseph; Mrs. G. B. Schultz, Cape Girardeau, and Mrs. John A. Powers, Warrensburg. (2 years) Mrs. Reuben Barney, Chillicothe; Mrs. James N. Barger, Albany; Mrs. E. L. Johnson, Concordia; Mrs. C. M. Sneed, Columbia, and Mrs. James E. Stowers, Kansas City.

ORGANIZED COUNTIES AND PRESIDENTS

COUNTY	PRESIDENT AND ADDRESS
Boone.....	Mrs. C. M. Sneed, Columbia
Buchanan.....	Mrs. C. H. Werner, St. Joseph
Cass.....	Mrs. H. A. Brierly, Peculiar
Cape Girardeau.....	Mrs. J. H. Cochran, Cape Girardeau
Clay.....	Mrs. H. J. Clark, Excelsior Springs
Cole.....	Mrs. Stanley P. Howard, Jefferson City
Gentry.....	Mrs. W. T. Martin, Albany
Greene.....	Mrs. W. C. Cheek, Springfield
Jackson.....	Mrs. Wilbur A. Baker, Kansas City
Johnson.....	Mrs. William R. Patterson, Warrensburg
Lafayette.....	Mrs. Odus Liston, Oak Grove
Linn.....	Mrs. Ola Putman, Marceline
Livingston.....	Mrs. Reuben Barney, Chillicothe
Randolph-Macon.....	Mrs. P. C. Davis, Moberly
St. Louis City.....	Mrs. A. G. Wichman, St. Louis
Saline.....	Mrs. L. S. James, Blackburn
Vernon-Cedar.....	Mrs. T. B. Todd, Nevada
26th District.....	Mrs. W. H. Breuer, St. James

WOMAN'S AUXILIARY

With much pleasure your chairman of press and publicity brings to you the following message from Mrs. David S. Long, Harrisonville, our State Auxiliary President:

PRESIDENT'S MESSAGE

It was with a deep sense of humility that I approached the task of serving as president of the Woman's Auxiliary to the Missouri State Medical Association. A brilliant galaxy of women have preceded me who set a high standard of ethical culture, education and service to the Auxiliary and to the Medical Association as well as to the citizens of the State. The organization has grown until in almost every section of the State there are groups of fine intelligent women working for the Auxiliary ideal.

It was my privilege to attend the annual convention of the Woman's Auxiliary to the American Medical Association in New Orleans. More than nine hundred women registered from every part of the United States, women of culture, ability and attractive appearance. I do not see how anyone could attend this convention, listen to the valuable reports and recommendations, and share in the delightful comradeship without a sense of uplift and pride in our organization.

The keynote of the National Auxiliary this year is "Business Administration." To this end we have been asked to use the uniform treasurer's receipt books and the uniform card filing system that has been adopted by the national board. The state board, at the postconvention meeting, approved these recommendations.

Other objectives for the year are: (1) A public relations chairman in every county auxiliary who will plan one meeting to which other organizations interested in public welfare will be invited to send representatives. The speaker for the program must have the approval of the advisory counselor of the State Auxiliary. One program, preferably at the October or November meeting, should be devoted to the subject of tuberculosis which with the undernourished condition of children due to the economic depression, is very apt to become an increased menace this year. (2) The recommendation comes from the National Auxiliary to include the story of Jane Todd Crawford on the program of every Auxiliary this year. This story may be obtained from Mrs. A. T. McCormack, Brown Hotel, Louisville, Kentucky. (3) There will be an essay contest among the school children, the subject to be "The Prevention and Care of Tuberculosis." Our president-elect, Mrs. Hudson Talbot, is the chairman of the contest and will mail the rules to each county auxiliary. (4) An effort is to be made to perfect our organization and machinery. It is suggested that one program of the year include a study of our organization and its personnel. A simplified study of parliamentary law will be found helpful. (5) We shall continue the good *Hygeia* record which Missouri has long held.

I was interested recently in an article that appeared in *The Christian*, the magazine published in Kansas City by Dr. Burris Jenkins. The article is written by Leland W. Parr who has recently returned to America after several years' residence abroad. I quote one paragraph: "A few years ago the American Medical Association saw fit to begin the publication of a popular health magazine, *Hygeia*. One reason for the step may have been that at that time there were a number of so-called health magazines publishing quantities of misleading information to the very great detriment of the public. At any rate these magazines are less in evidence and there is probably no nation in the world today as generally well informed in health matters as our own. Indeed, considering the very many isms and quackeries with which we are afflicted our progress in this respect has been but little short of marvelous."

This is an encouraging and stimulating statement to the Woman's Auxiliary, for it has been our organization more than any other one agency that has spread the circulation of this magazine, *Hygeia*, as a part of our ideal of promoting scientific health education.

The new state chairmen will be writing to you soon and will keep you informed regarding their departments through the year. May I suggest that each county president procure a letter file for the purpose of keeping the letters of the committee chairmen and the president? It will be found useful in keeping these sources of information ready for reference.

In line with our adopted plan to further education in the care and prevention of tuberculosis, you will be pleased to learn that our Auxiliary has been asked to furnish the program at a luncheon meet-

ing of the Missouri Tuberculosis Association on September 20, 1932, during the annual session of the Association in Jefferson City. This is a fine recognition of our Auxiliary and its position among the lay health agencies in Missouri.

I am happy to report the organization of a new auxiliary, the Miller County Auxiliary, with Mrs. G. D. Walker of Eldon as the president. I have also visited the Livingston and Lafayette county auxiliaries. These visits were not only most pleasant but interesting and informing to your president and, I am assured, were helpful to those auxiliaries.

My affectionate greetings and good wishes go to you at all times, carrying a deep appreciation for your friendship and loyal cooperation.

MRS. DAVID S. LONG, President.

TRUTH ABOUT MEDICINES

SOLUTION NORMET—Not Acceptable for N. N. R.—Solution Normet Medical and Solution Normet Surgical are marketed in the United States by The High Chemical Co., Philadelphia. According to the advertising, the "Medical" differs from the "Surgical" solution in that it contains less manganese. The Council on Pharmacy and Chemistry reports that no quantitative composition is given in the available advertising or on the trade package examined, but that such a statement is contained in an article which has been published by Normet in a French journal. According to this the preparation contains stated amounts of sodium citrate, calcium citrate, magnesium citrate, iron and ammonium citrate, manganese citrate dissolved in distilled water. The Council reports that the available literature indicates that none of the constituents of Normet's Solution, nor all of them combined, are capable of exerting any extraordinary restorative value in any of the conditions enumerated; but that it is true that the infusion of physiologic solution of sodium chloride alone often causes marked improvement after the loss of blood, though there is no striking difference between the death rate in dogs that have received physiologic solution of sodium chloride and those that have not, following severe hemorrhage. The Council declared Normet's Solution unacceptable for New and Non-official Remedies because it is an unscientific mixture marketed with unwarranted therapeutic claims. (Jour. A. M. A., October 17, 1931, p. 1149.)

PLAGIARISM IN "PATENT MEDICINES."—Analysis in the A. M. A. Chemical Laboratory of asthma remedies revealed 81 per cent to contain iodide; 37 per cent contained arsenic; 31 per cent contained both arsenic and iodide and 12 per cent contained acetylsalicylic acid. Patent medicines of this type are seldom original. (Jour. A. M. A., October 17, 1931, p. 1151.)

OVESTRUMON—Not Acceptable for N. N. R.—The Council on Pharmacy and Chemistry reports that under the proprietary name "Ovestrumon," the Vitalait Laboratory of California, Ltd., markets an ovarian extract preparation. After consideration of the information submitted by the manufacturer and of two consultants' reports the Council found the product unacceptable for New and Nonofficial Remedies. When the report was sent to the Vitalait Laboratory of California, Ltd., the firm requested the Council to withhold publication of its report until clinical trials that were under way might be completed and in the meantime agreed to discontinue active propaganda. Although ten months have

elapsed since the Council's report was submitted to the proprietors, no acceptable evidence for the efficacy of the product has become available. Hence the Council authorized publication of its report declaring Ovestrumon unacceptable for New and Non-official Remedies because it is a preparation of indefinite composition which is marketed with unestablished and therefore unwarranted therapeutic claims and which does not present sufficient originality to be entitled to a proprietary name. (Jour. A. M. A., October 24, 1931, p. 1226.)

IS VITAMIN A AN ANTI-INFECTIVE AGENT?—The significance of vitamin A as an essential of human nutrition can no longer be questioned. Until recently, physiologists have been engrossed with the consideration of the more obvious manifestations of deficiency disorders. The gross lesions of scurvy, pellagra, rickets and other results of dietary defects have received foremost consideration. When mastoid and nasal sinusitis, purulent otitis media, and ocular, respiratory and alimentary tract infections were found to occur in laboratory animals deprived of vitamin A, the problem of "lowered resistance" naturally presented itself. Recent investigation has suggested that infection may follow the weakening of the tissues, and that it may be due to the breakdown of the local tissue defenses. This has raised the question as to whether it is proper to refer to vitamin A as an "anti-infective" agent. Rats inoculated with virulent bacteria and kept on a vitamin A-free diet showed markedly decreased resistance to infection as compared with controls receiving cod liver oil. No such susceptibility to similar inoculations was found in rats on a diet deficient in vitamin D, compared to controls protected by viosterol. Increased susceptibility to infection is apparently an early manifestation of a dietary low in vitamin A. There has been a lack of evidence that vitamin A can cure infections when the barrier of the mucous membranes has been passed or that it can prevent or cure infections that enter the blood stream. The newer studies pave the way for the possibility, however, that vitamin A may after all do more than maintain the physiologic defenses of the mucous membranes. (Jour. A. M. A., October 24, 1931, p. 1229.)

THE ABSORPTION OF LEVULOSE.—Various investigators have asserted that levulose is particularly valuable in the dietary of patients with diabetes. Perhaps the most enthusiastic report, among the conflicting statements, is that of Joslin who is inclined to believe that levulose can be used with advantage in the diabetic diet in small amounts daily for intermittent periods. Levulose seems to cause a different type of metabolism from dextrose, possibly because of the conversion of levulose in part into fat in diabetes or to a more active stimulation of the production of insulin. A recent investigation has shown that levulose is not changed to dextrose in the intestines. Whatever transformations occur take place beyond the seat of absorption. (Jour. A. M. A., October 24, 1931, p. 1230.)

NAUSEATIN I AND NAUSEATIN II—Not Acceptable for N. N. R.—The Council on Pharmacy and Chemistry reports that these are mixtures recommended for simultaneous administration by means of an atomizer with compressed air or oxygen as a "causal remedy against sea and airsickness, railway sickness, hyperemesis gravidarum, all cases of central vomiting." The formulas for these mixtures are stated to have been devised by Franz Dammert, M.D., Munich, Germany. No statement of composition appeared on the labels or in the advertising. The

formulas furnished the Council showed the first to contain belladonna, liquor usara, papavarine and scopolamine hydrobromide, while the second was stated to contain epinephrine, pituitary, and calcium chloride. The Council found Nauseatin I and Nauseatin II unacceptable for New and Nonofficial Remedies because they are unscientific mixtures marketed with unwarranted claims and under non-descriptive, therapeutically suggestive names without definite statements of composition on the labels or in the advertising. (Jour. A. M. A., October 31, 1931, p. 1300.)

PRELIMINARY REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY.—New drugs are constantly being introduced and new uses are discovered for substances already known. If such a drug is of non-secret composition and its early trials appear to give promise of therapeutic value, the Council on Pharmacy and Chemistry may publish a preliminary report on it explaining that its therapeutic status is in the experimental stage but that the evidence presented may warrant a clinical trial in selected, controlled cases. (Jour. A. M. A., October 31, 1931, p. 1301.)

VICTORY BRAND EVAPORATED MILK (The Page Milk Company, Merrill, Wis.).—Only strictly sweet fresh milk of healthy herds and from sanitary farms regularly inspected by the company is used. On arrival at plant, it is cooled and stored in holding tanks. This product is claimed to be suitable for infant feeding and all other uses in ordinary milk, and that a mixture of one part water and one part evaporated milk corresponds to the legal standard for whole milk. The curds formed in the stomach are claimed to be smaller, softer and more readily digestible than those from raw or pasteurized milk.

SO-DELISHUS CORN-WITH-WHEAT (Purity Products Company, Minneapolis).—A mixture of selected durum wheat semolina, two thirds, with white corn meal, one third. A breakfast cereal requiring five minutes for cooking.

PIXIE STRAINED BEETS (Fruit Belt Preserving Company, East Williamson, N. Y.).—Canned, sieved beets containing in large measure the mineral and vitamin content of the raw beets used. This product is recommended for infants, children, convalescents and special diets.

B-TON (Vitamin Products Company, Tucson, Arizona).—Wheat embryo, slightly dried, admixed with a small amount of dry powdered yeast. The product is recommended as a food rich in vitamin B for raising the level of that vitamin in the diet.

HECKER'S GRANDMA'S PANCAKE FLOUR and **HECKER'S OLD HOMESTEAD PANCAKE FLOUR** (Hecker H-O Company, Inc., Buffalo, N. Y.).—A self-rising pancake flour, contains "clear" wheat flour, corn and rice flours, dextrose (corn sugar), salt, and baking powder materials—baking soda and calcium acid phosphate. A pancake flour of good quality.

PABST PASTEURIZED PROCESS CHEESE (Swiss Blended with American) (Pabst Corporation, Milwaukee).—A pasteurized blend of process Swiss and process American cheese containing disodium and trisodium phosphates as emulsifiers and salt. It is recommended for all the uses of ordinary cheese.

DRYCO (The Dry Milk Company, Inc., New York).—A drum-dried irradiated, antirachitic, partially defatted milk; contains vitamin D in substantial quantity. An antirachitic dried, partially defatted milk especially recommended for infants deprived of mother's milk and for convalescents.

Davidson's Prize Bread (Davidson's Baking Company, Portland, Ore.).—A white bread made by the sponge dough method. It is claimed to be a bread of good quality. (Jour. A. M. A., January 2, 1932, p. 48.)

SMACO (205) Concentrated Liquid Skim Milk (Sterilized) (S. M. A. Corporation, Cleveland).—An evaporated almost fat-free skim milk. This concentrated skim milk is especially prepared for infant feeding and may be used whenever a "fat free" milk is indicated. It is used in reducing the fat content of whole milk or evaporated milk.

KARO (Crystal White) (Corn Products Refining Company, New York).—A table syrup; a corn syrup base with added sucrose, flavored with vanilla extract. Karo Syrup is recommended for use as an easily digestible and readily assimilable carbohydrate supplement to milk in infant feeding and as a syrup for cooking, baking and the table.

PIXIE STRAINED SPINACH (Fruit Belt Preserving Company, East Williamson, N. Y.).—Canned, sieved spinach containing in large measure the mineral and vitamin content of the raw spinach used; contains a small amount of added salt. This product is recommended for infants, children, convalescents and special diets. (Jour. A. M. A., January 9, 1932, p. 143.)

SWIFT'S GELATINE (Protector, Frezrite, Stabilo, Economix, Superla, Textura, Velvatex, Atlas, Superwhip, Premium and Cremelac Brands) (Swift and Company, Chicago).—Granular plain gelatins of different jelly strengths; unsweetened and unflavored. These products are claimed to be food gelatins designed for special uses, prepared from the edible skin of government tested animals; suitable for use in normal and restricted diets and in all food gelatin preparations.

PIXIE STRAINED WAX BEANS (Fruit Belt Preserving Company, East Williamson, N. Y.).—Canned, sieved wax beans containing in large measure the mineral and vitamin content of the raw beans used. This product is recommended for infants, children, convalescents and special diets.

KARO (Orange Label) (Corn Products Refining Company, New York).—A table syrup; a corn syrup base with added sucrose, flavored with imitation maple flavor. Karo Syrup is recommended for use as an easily digestible and readily assimilable carbohydrate supplement to milk in infant feeding and as a syrup for cooking, baking and the table. (Jour. A. M. A., January 16, 1932, p. 231.)

RE UMBERTO BRAND IMPORTED PURE OLIVE OIL (Strohmeyer and Arpe Company, New York).—An imported olive oil in cans and bottles. It is claimed to be a pure olive oil for table use.

BARBER'S SILVER STRIPE BREAD (Thos. C. Hill and Son Company, Trenton, N. J.).—A white bread made by the sponge dough method. It is claimed to be a bread of good quality.

KARO (Blue Label) (Corn Products Refining Company, New York).—A table syrup; a corn syrup base flavored with refiners' syrup. Karo Syrup is recommended for use as an easily digestible and readily assimilable carbohydrate supplement to milk in infant feeding and as a syrup for cooking, baking and the table.

ALPINE, LEON, AND EVERYDAY BRANDS STERILIZED, UNSWEETENED EVAPORATED MILK (Nestle's Milk Products, Inc., New York).—An unsweetened, sterilized evaporated milk. These brands of evaporated milk are claimed to be suitable for general cooking, baking and table uses and in infant feeding. The

mixture of equal parts of the evaporated milk and water is not below the legal standard for whole milk. The curds formed in the stomach are claimed to be smaller, softer and more readily digestible than those from raw or pasteurized milk. (Jour. A. M. A., January 23, 1932, p. 319.)

PENNANT CRYSTAL WHITE SYRUP (Union Sales Corporation, Columbus, Ind.).—A table syrup; corn syrup sweetened with sucrose; flavored with vanilla extract. This syrup is recommended for cooking, baking and table use. It is suitable as a carbohydrate supplement for milk modification for infant feeding.

BARKER'S THORO-BREAD SLICED OR PLAIN (Barker Baking Company, Grand Forks, N. D.).—A white bread made by the sponge dough method. It is claimed to be a bread of good quality.

PIXIE STRAINED APPLE SAUCE (Fruit Belt Preserving Company, East Williamson, N. Y.).—Canned apple sauce made from sieved, peeled and cored apples containing in large measure the mineral and vitamin content of the raw fruit used; contains a small amount of added sugar. This product is recommended for infants, children, convalescents and special diets.

SMACO HYPO-ALLERGIC WHOLE MILK (300) (S. M. A. Corporation, Cleveland).—A sterilized whole milk made hypo-allergic by prolonged processing. This hypo-allergic milk is claimed to be especially prepared for individuals subject to allergic reactions from usual boiled milk or other milk preparations. It may be used in regular feeding formulas.

PENNANT GOLDEN TABLE SYRUP (Union Sales Corporation, Columbus, Ind.).—A table syrup; corn syrup flavored with refiners' syrup. This syrup is recommended for cooking, baking and table use. It is suitable as a carbohydrate supplement for milk modification for infant feeding. (Jour. A. M. A., January 30, 1932, p. 402.)

PABST-ETT (Swiss Variety) (Pabst Corporation, Milwaukee, Wis.).—A blend of process Swiss and process American cheese containing disodium phosphate as emulsifier; with added salt, evaporated milk and concentrated milk whey. It is recommended for all the uses of ordinary cheese.

GOLD MEDAL MONEY MAKER FLOUR (Associate companies of General Mills, Inc., Minneapolis, Minn.).—A hard wheat patent flour designed for commercial bakers' use; packed in sacks. This product is claimed to be a good quality hard wheat flour designed to meet the requirements of the baking industry for an economical bread flour.

GORMAN'S EXTRA FINE BREAD (Liberty Bond), Sliced and Unsliced (Gorman's Bakery, Inc., Central Falls, R. I.).—A white milk bread made by the straight dough method. It is claimed to be a milk bread of good quality.

DROMEDARY MOIST COCONUT (The Hills Brothers Company, New York).—A canned shredded coconut flavored with sucrose and salt; packed in tins in an atmosphere of carbon dioxide. This product is claimed to be a coconut food of good quality. (Jour. A. M. A., November 7, 1931, p. 1387.)

JOLLY TIME HULLLESS POPCORN (American Popcorn Company, Sioux City, Iowa).—Canned popcorn kernels with a proper moisture content for good popping. This is claimed to be a good quality popcorn, guaranteed to pop after years of storage.

PIXIE STRAINED CARROTS (Fruit Belt Preserving Company, East Williamson, N. Y.).—Canned, sieved carrots containing in large measure the mineral and vitamin content of the raw carrots used; contains a small amount of added salt. These canned sieved carrots are prepared in an atmosphere of water

vapor to protect the vitamin content of the raw materials. The natural vitamin content consequently is largely retained or so far as is possible by present commercial sieving and canning methods. The sieved carrots are recommended for infants, children, convalescents and special diets.

WALSH'S KEW BEE BREAD (Walsh Baking Company, Evansville, Ind.).—A white bread made by the sponge dough method. It is claimed to be a bread of good quality.

SWAN'S DOWNEES ROLLS (Swan Brothers, Knoxville, Tenn.).—White rolls made by the sponge dough method. They are claimed to be rolls of good quality. (Jour. A. M. A., November 14, 1931, p. 1466.)

VITABAR (The Vitamin Company of America, Inc., Orlando, Fla.).—A dextrose sweetened milk-chocolate coated confection in bar form; the "center" contains ground sugared grapefruit peel and pineapple, ground dates and dried apricots, wheat embryo and vitamin concentrate of cod liver oil and orange or grapefruit. Vitamin B (complex), C, D and E are claimed to be present in substantial quantities.

PABST PASTEURIZED PROCESS CHEESE (American) (Pabst Corporation, Milwaukee, Wis.).—A process American cheese containing disodium and trisodium phosphates as emulsifiers and salt. It is recommended for all the uses of ordinary cheese.

ZIM'S KEW BEE BREAD (Zimmerman's Bakeries, Inc., Hannibal and Mexico, Mo.).—A white bread made by the sponge dough method. It is claimed to be a bread of good quality.

MEAD'S CEREAL (Mead Johnson & Co., Evansville, Ind.).—A cereal mixture of wheat meal (farina), oatmeal, wheat embryo and yellow cornmeal; with powdered bone, dehydrated alfalfa leaf and brewers' yeast. Substantial amounts of vitamins A, B, E and G are claimed to be present. It is claimed to be a good quality cereal enriched with vitamin and mineral containing foods. One ounce contains as much calcium as 6 ounces of milk and more iron than two egg yolks; $1\frac{1}{2}$ ounces more phosphorus than one egg yolk, and more copper than three times as much rolled oats or four times as much farina.

KING WHEAT FLOUR (Associate companies of General Mills, Inc., Minneapolis, Minn.).—A hard winter wheat patent flour designed for bakers' use; packed in sacks. This product is claimed to be a good quality hard winter wheat patent flour designed to meet the requirements of the baking industry for an economical bread flour. (Jour. A. M. A., November 21, 1931, p. 1538.)

SMACO HYPO-ALLERGIC SKIM MILK (303) (S. M. A. Corporation, Cleveland, Ohio).—A sterilized almost fat free skim milk made hypo-allergic by prolonged processing. This hypo-allergic skim milk is claimed to be especially prepared for individuals subject to allergic reactions from usual boiled skim milk or other skim milk preparations. It may be used in regular feeding formulas.

VAN CAMP'S TOMATO JUICE (The Van Camp Packing Company, Inc., Indianapolis, Ind.).—A canned pasteurized tomato juice, seasoned with salt, retaining in large measure the original vitamin content of the tomatoes used. This tomato juice is claimed to be a good source of vitamins A and B and an excellent source of vitamin C. It is recommended for infant feeding and for general table use.

COLE'S RED-SLICED BREAD (Cole Baking Company, Bluefield, W. Va.).—A sliced white bread made by the sponge dough method. It is claimed to be a bread of good quality.

WASHBURN'S GOLD MEDAL FLOUR (Associate companies of General Mills, Inc., Minneapolis, Minn.).—A hard spring wheat patent flour designed for commercial bakers' use; packed in sacks. This product is claimed to be a good quality hard spring wheat patent flour designed to meet the requirements of the baking industry for an economical bread flour with distinct spring wheat characteristics.

PABST-ETT (Pimento Variety) (Pabst Corporation, Milwaukee, Wis.).—A process American cheese containing disodium and trisodium phosphates as emulsifiers; with added canned pimentos, concentrated milk whey and salt. It is recommended for all the uses of ordinary cheese.

PIXIE STRAINED GREEN BEANS (Fruit Belt Preserving Company, East Williamson, N. Y.).—Canned, sieved green beans containing in large measure the mineral and vitamin content of the raw beans used. The sieved beans are recommended for infants, children, convalescents and special diets. (Jour. A. M. A., November 28, 1931, p. 1626.)

PABST PASTEURIZED PROCESS CHEESE (Pimento) (Pabst Corporation, Milwaukee, Wis.).—A pasteurized process American cheese containing disodium and trisodium phosphates as emulsifiers, with pimentos and salt. It is recommended for all the uses of ordinary cheese.

PIXIE STRAINED TOMATOES (Fruit Belt Preserving Company, East Williamson, N. Y.).—Canned, sieved tomatoes containing in large measure the mineral and vitamin content of the raw tomatoes used; contains a small amount of added salt. This product is recommended for infants, children, convalescents and special diets. (Jour. A. M. A., December 5, 1931, p. 1709.)

EVAPORATED MILK ASSOCIATION EDUCATIONAL ADVERTISING (Evaporated Milk Association, Chicago).—The following listed educational publications have been found acceptable as conforming to the Rules and Regulations with the exception of a few minor statements: Milk—A Quart a Day, Quantity Recipes for Serving Twenty-Five to Fifty People, A Safer World for Babies, Why Should I Use Evaporated Milk, Milk for Drinking, Frozen Foods—The Automatic Way, Planning Lunches for School Children, Milk-Made Candies, The Story of Evaporated Milk, Nutritive Value of Evaporated Milk, The School Lunch, Eating for Efficiency (Revised), Send a Good Fellow Basket to a Needy Family, Statistical Data, Safety and Simplicity in Infant Feeding, Some Foods for Children Between 6 Months and 6 Years, Infant Feeding with Unsweetened Evaporated Milk, Evaporated Milk, for Health and Protection, More Milk—Smaller Bills, The Adventures of Eva, Pora and Ted. The Evaporated Milk Association is therefore entitled to display the seal of this committee on its publications and advertisements.

BOOK REVIEWS

EMERGENCY SURGERY. By Hamilton Bailey, F.R.C.S., (Eng.) Surgeon, Royal Northern Hospital, London. Volume II. Thorax, spine, head, neck, extremities, etc. With 430 illustrations, some of which are in colour. New York: William Wood and Company. 1931. Price \$8.00.

Volume II of Bailey's "Emergency Surgery" is similar to Volume I in that it covers a wide scope of emergency surgery, briefly described and well illustrated by surgical and anatomical drawings. These two volumes are of particular interest to the industrial surgeon. J. G. M.

THE EXPECTANT MOTHER'S HANDBOOK. By Frederick C. Irving, A.B., M.D., Professor of Obstetrics, Harvard Medical School; Visiting Obstetrician, Boston Lying-in Hospital. With illustrations. Boston and New York: Houghton Mifflin Company. The Riverside Press, Cambridge. 1932. Price \$1.75.

This carefully worded booklet covers the whole field of knowledge, pertaining to obstetrics, as it exists today. It is told in the manner of a physician talking to an exceptionally intelligent woman patient and leaves nothing unsaid because of false notions of propriety or mistaken modesty. The chapters on anesthesia, operative delivery and sex predetermination will answer all questions before the patients have had a chance to ask them. The chapter on the biological aspects of pregnancy, evolution, heredity, twins, etc., makes interesting reading for any intelligent person. W. C. G.

LITTLE MEXICO. By William Spratling. With portraits and decorations by the author. Foreword by Diego Rivera. New York: Jonathan Cape & Harrison Smith. Price \$3.50.

This book is an artistic gem. Although written by a man who is perhaps more familiar with the brush than with the pen, nevertheless the printed pages are as delicately and surely wrought as is the line of his illustrations that accompany the text. Senor Don Guillermo Spratling, otherwise known as Bill, lives in the very interesting town of Taxco. But Taxco is Little Mexico and it is only by living for years in the environment of these truly actual people that he has been able to acquire the necessary simplicity to write about them as they are. While much of the book centers around the life and the people of this small town, there is enough of travel to give us an idea of both the Tierra Caliente (Hot Country) and Tierra Fria (Cold Country). If one wants a true picture of the real Mexican people and their locale not padded by a history of the country and a preachment on their economics, we certainly recommend this book. R. L. T.

PRACTICAL TREATMENT OF SKIN DISEASES. With Special Reference to Technique. By Eduard Ahlswede, M.D., Formerly Assistant Physician, University Skin Department, Direction of Professor Unna, Eppendorf Hospital, Hamburg, etc. 77 illustrations. New York: Paul B. Hoeber, Inc. 1932. Price \$12.00.

Those cynics who regard the sum total of a dermatologist's therapeutic armamentarium to consist solely of sulphur ointments and pink lotions will be agreeably surprised at the vast amount of knowledge assembled by Ahlswede in this intensely practical book.

While written by a European trained dermatologist, the American slant has been ably presented by Dr. Maloney, of New York. The inclusion of Continental drugs and formulae does not detract from the value of the work as hundreds of useful prescriptions and measures are enumerated that can be used by the general practitioner.

The first part of the book is devoted to general therapeutics, the chapter on physiotherapy being especially well presented. The remainder of the book takes up the various diseases of the skin and the treatment for each type and stage of the disease. Acne and psoriasis are especially well handled.

The book is printed in large type, the subject matter well systematized; and altogether, it is a pleasure to recommend it to physicians interested in that "bug-bear," the treatment of skin diseases. N. T.

A RADIOLOGICAL STUDY OF THE PARA-NASAL SINUSES AND MASTOIDS. By Amédée Granger, K.C.B., K.C.I., M.D., F.A.C.R., Professor of Radiology, Louisiana State University Medical Center, etc. Gold Medal of the Radiological Society of North America in 1926; Gold Academic Palms of France in 1929. Illustrated with 113 engravings. Philadelphia: Lea & Febiger. 1932. Price \$5.50.

In this brief monograph Dr. Granger brings out the advantages of more careful and accurate technic in securing roentgen ray photographs of the paranasal sinuses and the mastoid process. He particularly emphasizes the importance of maintaining an exact and consistent position of the head when taking these pictures, and has added a very important phase in roentgen ray studies. His attempt to standardize this technic is worthy of commendation, but it does seem unfortunate that his enthusiasm should carry him so far beyond the interpretation of shadows as to lead him into the field of clinical diagnosis and even to the treatment of infantile mastoiditis with small doses of roentgen ray. That, however, is usually the price that is paid for any highly specialized field.

The fixed head positions are very well illustrated and thoroughly explained. Numerous illustrations clearly demonstrate the relative position of the paranasal sinuses and show some interesting pathological changes. The interpretations of these changes, of course may vary with different clinical observers.

The book is meritorious principally in bringing out some different methods of technic in roentgen ray studies of the paranasal sinuses and the mastoid processes. O. J. D.

A DOCTOR OF THE 1870'S AND 80'S. By William Allen Pusey, Sometime President of the American Medical Association and of the American Dermatological Association. Charles C. Thomas, Springfield, Illinois. 1932. Price \$3.00.

A biography is always interesting. Those we read are usually of men who have played a part in the larger affairs of the world, or at least of those whose names are already familiar. But in this account of his father, Dr. Pusey has given us a thoroughly enjoyable book despite the fact that it deals with one whose fame was limited to the radius of his immediate activities and that it contains no theatrical scenes or stirring incidents. But it portrays the quiet beauty of a Midwest American landscape with its rolling hills, shady lanes, cool streams, grazing flocks, comfortable homes and wide sweep of sky, whether seen when meadows are pied with flowers and trees are green or when fields are sere and brown and the tracery of bare branches is set sharply against a pale sky.

These form a background to the everyday life of a country doctor, a fine example of a noble breed which still lives and serves in our rural communities, finds its pleasure in its duty, self-forgetting and self-sacrificing, prepared as far as place and time will permit for the exigencies and emergencies of practice and, if not always skilled in the most recent refinements of diagnosis and treatment, yet

competent to give the people a full measure of what is then and there their due.

The reader gets the impression of having personally known the elder Pusey, which shows that the author has employed George Henry Lewes' formula for good writing, "truly see, truly feel, truly report."

The frontispiece is a portrait of Dr. R. B. Pusey. There is something about the lines of the mouth betokening firmness together with kindness and a sense of humor which somehow reminds one of Lincoln.

This book can be read with interest by any doctor, and especially by one whose medical memories reach back, as do those of the writer of this review, to the years included in this narrative. J. G.

OBSTETRIC EDUCATION. Report of the Subcommittee on Obstetric Teaching and Education, Fred Lyman Adair, M.D., Chairman. White House Conference on Child Health and Protection. New York: The Century Co. Price \$3.00.

The report of the committee on prenatal and maternal care at the White House Conference, called by President Hoover in 1931, is compiled in a book of 380 pages. It is dedicated to "the children of America whose faces are turned toward the light of a new day and who must be prepared to meet a great adventure."

Dr. Fred L. Adair of Chicago was the Conference chairman and indicated in his introductory address that a more thorough obstetrical and gynecological education would contribute much to the accomplishment of the purposes of the Conference. Quoting further, "medicine is both an art and a science whose purpose is to serve the patient. This is not universally recognized even though this is the only justification for its existence. It is true that we all admire the artist in the surgeon, but the justification and the purpose of the operation is not its performance, its artistry or its science, but its benefit to the patient."

The Committee on Graduate Education makes a number of recommendations some of which follow: Plans inaugurated by the Chicago Medical Society and the Kansas City Southwest Clinical Society appear to offer a practical method of supplying post-graduate instruction in obstetrics and to be worthy of imitation.

The European plan of the Frauenklinik which has been imitated in this country should be extended to all medical schools. Steps should be taken by the medical profession to the end that only properly qualified physicians may designate themselves as obstetrical specialists.

No hospital should permit other than a well qualified obstetrical specialist to attend a serious obstetrical complication or perform a major obstetrical operation without consultation with a well qualified specialist, preferably one attached to the hospital.

The obstetrical nurse, midwife, the education of the laity and the many other interrelated subjects were discussed in statistical detail at the Conference by leading obstetricians and teachers from coast to coast.

The book is an inspirational compilation of modern development in obstetrical teaching and practice and would be a desirable addition to any physician's library. M. A. H.

1. American Journal of Obstetrics and Gynecology, June, 1931.

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E. J. GOODWIN, M.D., Editor
1023 Missouri Building, St. Louis, Mo.
Telephone, Jefferson 5261.

PUBLICATION COMMITTEE { J. C. B. DAVIS, M.D., Chairman
G. WILSE ROBINSON, M.D.
M. A. BLISS, M.D.

RETINAL DETACHMENT ASSOCIATED WITH PROLIFERATIVE CHANGES OF RETINAL PIGMENT EPITHELIUM SIMULATING NEOPLASM *

EMMETT P. NORTH, M.D.

AND

VINCENT L. JONES, M.D.

ST. LOUIS

A resumé of the anatomy of the eye will help refresh our memories and make for a better appreciation of the similar clinical picture of dissimilar lesions and, vice versa, the dissimilar clinical pictures of similar pathological processes. An explosion is an end-result of the action of many different forces; so also a retinal detachment is the end-result of various pathological processes and, paradoxical as it may sound, the *a posteriori* interpretation is not always as simple as one might desire.

There are three coats or layers of the globe of the eye; the outer, a dense fibrous coat, posteriorly; the sclera and, anteriorly, the cornea, the one passing into the other at the limbus. Immediately internal to this fibrous layer is the vascular coat known as the uveal layer which is divided into the chorioid, ciliary body and iris, the chorioid and ciliary body lying in contact with the sclera, and the innermost or nerve tissue coat, termed retina, lying in loose contact with the chorioid, perhaps held in apposition to the chorioid by intra-ocular pressure, and a pigment layer, the pigment epithelium, lying between the vascular chorioid and the nerve elements of the retina and has at various times been considered a portion of the retina, later a part of the chorioid, then as a more or less distinct anatomical entity, but now the latest classification places the pigment epithelium definitely as a part of the retina; and so we shall consider it.

The chorioid consists chiefly of blood vessels roughly divided into large, medium and

small, the large vessels lying external and the smallest, choriocapillaris, subjacent to the retina; this vascular layer lies at all points in apposition to the sclera, the perichorioid space alone intervening, and this as an actual space in life is probably nonexistent; but these layers are directly adherent in but two places, the one being around the entrance of the optic nerve into the globe of the eye and the other being at the corneoscleral border; but wherever blood vessels pass from chorioid through sclera to the exterior, as do the vortex veins, of course there is more or less of an anchorage, hence detachment of the chorioid from the sclera is not easily accomplished.

The pigment epithelium is a thin layer covering the inner surface of the chorioid. It consists of a single layer of hexagonal cells, that is hexagonal in the usual state, but the smaller cells have fewer and the larger cells more sides. There are numerous fine processes projecting from the retinal side of the cells, projecting between the outer rods and cones of the retina, a so-called cement substance covers the surface of each cell opposed to the lamina vitrea or glass membrane of the chorioid which probably accounts for the firmer attachment of the pigment epithelium to the chorioid than to the retina.

The retina is a transparent, inelastic membrane; behind, it is attached to the optic nerve and in front it terminates at the ora serrata; at both places it is firmly attached, but otherwise its attachment to the pigment epithelium is very delicate and easily separated, the intra-ocular tension probably being an important factor in holding it in place. Hence, a detachment of the retina is not an infrequent condition.

Histologically, the retina is divided into nine layers; from without inward they are, (1) layer of rods and cones, (2) external limiting membrane, (3) outer nuclear layer, (4) outer plexiform layer, (5) inner nuclear layer, (6) inner plexiform layer, (7) ganglion-cell layer, (8) nerve fiber layer, and (9) internal limiting membrane.

* Read at the 75th Annual Meeting of the Missouri State Medical Association, Jefferson City, May 23-26, 1932.

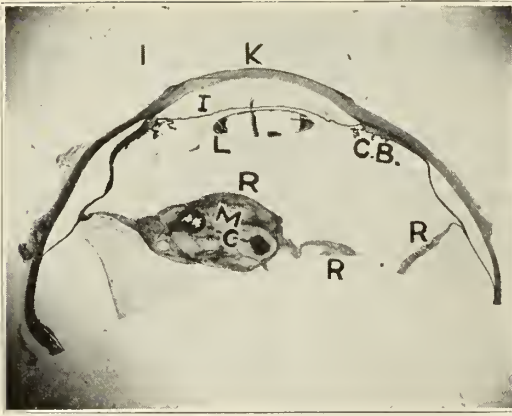


Fig. 1. Section through anterior half of eye showing, K, cornea, I, iris, L, lens, CB, ciliary body, R, detached retina, M, masses of connective tissue in detached retina, C, centers of liquefaction with lime salts in connective tissue mass.

Glioma of retina is the popular term applied to unpigmented neoplasms of the retina, first recorded by Hayes in 1767, named glioma retinae by Virchow who thought the origin was in the neuroglia. Flexner first proposed the term neuro-epithelioma, later adopted by Wintersteiner who traced the origin of these growths to the neuro-epithelial layer of the retina, hence they are more properly called neuro-epithelioma.

Incidence.—Glioma, or neuro-epithelioma, is only found in young children, sometimes undoubtedly congenital but usually recognized between the second and third years of life; rarely after the seventh year and probably never later than the twelfth year. The sexes are equally affected and about 25 per cent of cases involve both eyes. Where only one eye is involved the occurrence is equal in right and left. Several offspring of the same parents have been afflicted but it has not been met with in more than one generation in a family. (Collins-Mayou.)

Etiology.—The cause is unknown and usually only one eye is involved, but when both eyes are affected the process is definitely distinct and localized in each eye and the second eye is not involved by either extension or metastasis from the first; several children of the same parents may be so afflicted but it seems limited to the one generation.

Pathology.—The cells composing these malignant tumors of the retina are of the same character as the cells of the retina during fetal life. The growth usually develops from several foci or nodes, the outer or inner nuclear layers of the retina being most commonly involved, but occasionally the ganglion layer is the site of origin.

The cells of which a glioma of the retina is

composed are peculiar to it and are not met with in growths in other parts of the body, except in metastases. They have large round or oval nuclei with very little cytoplasm. In teased-out specimens little delicate processes can often be seen projecting from them. They closely resemble the cells of which the whole of the retina is composed at the third month of fetal life before any of its several layers have become differentiated. They are also very similar to the cells forming the nuclear layers of the retina. In some gliomata of the retina all the cells are of this type; in others cells which may be regarded as rudimentary rod and cone cells and rudimentary ganglion cells, are also found. (Collins-Mayou.) "The rudimentary rod and cone cells occur grouped around a space which may be circular, like the lumen of a tubular gland, or of an irregular shape. The circular groups of cells have been described as 'rosettes'.

"The most highly developed cells in the rosettes are cylindrical in shape and have round or oval nuclei. The ends toward the open space taper somewhat, rod-like projections protruding from them. The ends of the cells nearest the lumen rest on a basement membrane comparable to the membrana limitans externa; similar rosette-like formation of cells are sometimes seen in the maldeveloped retina of congenitally deformed eyes.

"Columnar-shaped cells bounding round or irregular spaces are met with, which may be regarded as a still more elementary stage of a rod or cone cell, and cells can be found in various stages of transition from them to those which form the chief mass of the growth.

"The rudimentary ganglion cells are more angular than the ordinary glioma cells, have

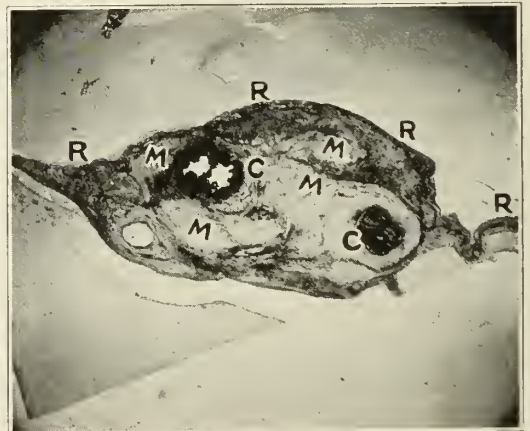


Fig. 2. Section through anterior part of detached retina, R, swollen with albuminous exudate and edema and containing a large dense and avascular connective tissue mass, M, having two centers of degeneration, C, impregnated with lime salts.

more cytoplasm, and a projection from them which may be regarded as a rudimentary axis cylinder. There is little intercellular substance in gliomata; no true stroma." (Collins-Mayou.)

Sudden transitions in the same growth may occur, resembling transition of pars optica into pars ciliaris retina (Verhoeff, 1914). The proliferation of cells proceeds more rapidly than the vascularization with resultant degeneration due to faulty nutrition.

Stages.—The clinical course of glioma or of any intra-ocular neoplasm is divided into four stages:

First Stage.—No inflammation, the growth extending into the vitreous (if endophytum) if the focus is in the inner layer of the retina, or extending into the subretinal space (if exophytum) if the focus is in the external layers. At this stage there is simply the extension of the growth without any change in the intra-ocular tension, painless and disturbance of vision variable. If glioma (endophytum) the protrusion into the vitreous will affect vision only in so far as the retina is directly involved, but if exophytum with protrusion into the subretinal space there will be a resultant detachment of the retina extending beyond the limits of the involved retina and consequently a greater loss of vision. As a matter of fact, the exophytum is the more frequent type and the retina is detached forward and the tumor seen as an opaque white mass behind the detached retina; whereas, in the endophytum the retina remains in position and the nodular mass of the tumor may be observed. Blindness develops in this stage, either because of complete detachment of the retina or because the growth protruding into the vitreous is of suffi-

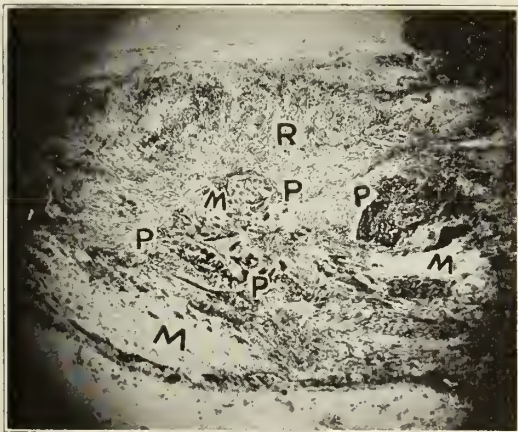


Fig. 3. Section through anterior part of the detached retina, R, greatly disorganized and swollen with albuminous fluid and edema and containing groups of pigmented epithelial cells, P, in association with small masses, M, of dense and avascular connective tissue.

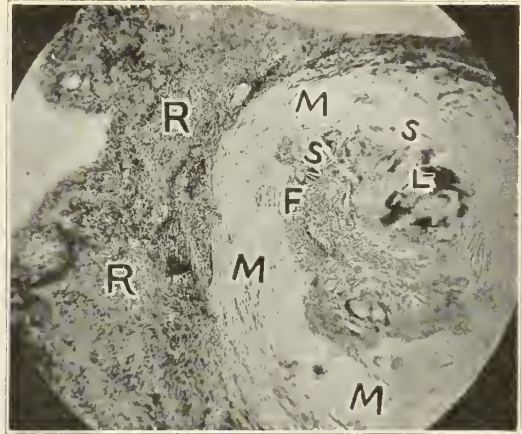


Fig. 4. Section through anterior part of detached retina, R, swollen and disorganized with albuminous exudate and part of the dense, avascular and hyaline-like connective tissue mass, M, with a center, containing dense numbers of fibroblasts, F, cholesterol crystal spaces, S, and lime salts, L.

cient size to prevent light rays reaching the uninvolved portion of the retina.

Second Stage.—This stage is characterized by the development of secondary glaucoma with consequent congestion and pain.

Third Stage.—The extension of the neoplasm to the exterior and with the extension through the fibrous envelope of the eye we have a passing of the hypertension and a consequent cessation of the pain, but the painless period is, perhaps, more theoretical than actual for with the extension of the tumor to the exterior there is an acceleration of growth, first along the optic nerve, then out through the cornea or its vicinity and, as expressed by Fuchs, "the eye at length is transformed into a large ulcerated, painful and readily bleeding mass (exophthalmia fungosa) which fills the whole orbit and projects out between the lids,"—the fungus hematoides of the older writers.

Fourth Stage.—The extension to neighboring parts along the optic nerve to the brain and metastatic involvement of pre-auricular gland, cranial and facial bones and the lungs, liver and abdominal organs.

Symptoms.—The parents' attention is usually first drawn to the affected eye by the blindness, the dilated pupil, or because of the whitish reflex through the pupil, which has given this condition the name of amaurotic cat's eye, by which it has been known since the time of Beer; amaurotic, because the eye is blind, and cat's eye because it shines like a cat's eye in the dark, this whitish yellow reflex being due to the nodular tumor mass extending into the vitreous (endophytum) or to the detached retina behind the lens if exophytum. This condition is usually observed by the parents in the

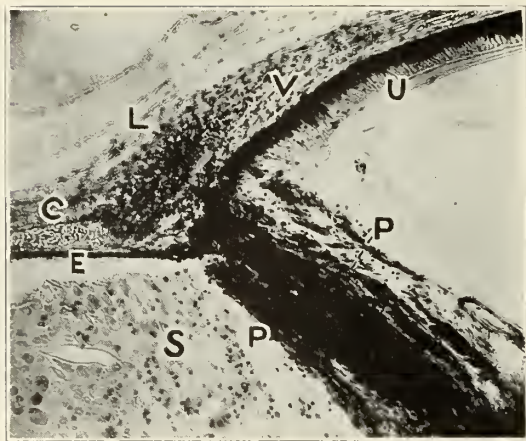


Fig. 5. Section through the region of the ora serrata showing, U, unpigmented ciliary epithelium, V, vascular layer of ciliary body, C, chorioid, E, retinal pigment epithelium, L, collection of small lymphocytes, S, subretinal albuminous fluid containing loose and swollen epithelial cells from retinal pigment epithelium, P, invasion of detached retina by strings of proliferated retinal pigment epithelium.

first stage, but of course the stage of increased intra-ocular tension is characterized by the pain of secondary glaucoma and the congestion of the globe and various reflex phenomena, such as vomiting, etc. In those cases in which the neoplasm protrudes into the vitreous the development of hypertension is relatively slow, as the increasing size of the tumor is compensated by decrease of the vitreous. Whereas, in cases where the neoplasm protrudes into the subretinal space we find detachment of the retina with serous transudate and hemorrhage, and thus a complementary factor augmenting the development of the secondary glaucoma.

Differential Diagnosis.—Clinically, the differential diagnosis is relatively simple, for an eye that is blind and potentially dangerous is better out and the earlier it is enucleated the better; but, academically, the differential diagnosis is not so simple for we must consider the following:

1. Persistent posterior part of fetal fibro-vascular sheath of the lens.
2. Simple detachment of the retina.
3. Leukosarcoma of the chorioid.
4. Chronic inflammatory processes of the uveal tract.
5. Pseudoglioma; abscess of the vitreous.
6. Detachment of retina with dropsical degeneration of visual cells. (Rods and cones. De Schweinitz.)
7. Retinitis circinate.
8. Exudative retinitis with formation of connective tissue between the retina and chorioid.

1. Persistent posterior portion of fetal fibro-vascular sheath of the lens, and other con-

genital defects or remains, are usually recognized if a careful examination is made.

2. Simple detachment. As retinal detachment is usually one of the complications in the development of neuro-epithelioma it is readily understood why we are unable to say that a neoplasm does or does not exist. When the principal if not the only objective finding is a retinal detachment we may theorize as much as we please, emphasizing the fact that simple detachment usually gives a bluish white reflex, whereas a tumor will give a more yellowish to reddish reflex, but we know that a very small lesion or tumor may cause a massive detachment and the resultant folds of the retina completely hide from view the causative lesion. We may theorize that in simple detachment the intra-ocular tension is decreased, whereas in intra-ocular tumor the tension is usually increased, but when this increased tension develops we have a secondary glaucoma and then a simple detachment is automatically ruled out; but in the first stage of neoplasm intra-ocular tension should not be considered. The recognition of the new vessels of a tumor in differentiation from the vessels of a detached retina, even if the media are sufficiently clear to permit of a satisfactory observation, is of no great importance as the vessels of the neoplasm may not be observable. The fact that a detached retina lying on serous transudate will vibrate upon movement of the eye, whereas a detached retina lying upon a neoplasm will not vibrate because the tumor mass does not vibrate, is also unreliable as the detachment often extends far beyond the limits of the growth and the effusion or hemorrhage in the subretinal space will be subject to vibration upon movement of the eyeball; hence, in the presence of a detachment, large or small, and



Fig. 6. Section through posterior half of eye, showing, O, optic nerve, R, retina attached to dense connective tissue masses, M, bone, B, in the chorioid, S, cholesterol crystal spaces in swollen retina.

the absence of positive findings to the contrary, the presumptive evidence is in favor of a neoplasm.

3. Leukosarcoma is very rare. Fuchs, quoted by Ball, found in 259 sarcomas of the uveal tract but six leukosarcomas in children under twelve years of age. The clinical course will be that of an intra-ocular tumor with retinal detachment and the differential diagnosis practically impossible.

4. Chronic inflammatory processes of the uveal tract may show retinal detachment with exudate into the vitreous which latter becomes organized. The color of the exudate, the vascularization of neoplasms and the absence of it in the exudative process; the smooth surface of the exudate and the often nodular form of neoplasms, and the usual hypotension in exudative processes, are all variously emphasized and as often condemned as of importance in differential diagnosis. So also posterior synechiae may be a part of the picture of a neuro-epithelioma, particularly if the neoplasm involves the pars ciliaris. Tuberculous disease of the anterior uveal tract with adhesions obliterating the communication between the posterior and anterior chambers, with resultant secondary glaucoma and ectasia, offers serious difficulties in differentiation and usually it is impossible to positively rule out neoplasm. Large solitary tubercles of the chorioid are very difficult to distinguish from neuro-epithelioma.

5. Pseudoglioma, abscess of the vitreous, acute suppurative hyalitis, are various terms given to an acute inflammatory condition producing a yellowish mass in the vitreous, with increased tension. The clinical course is rapid, hypopyon develops, perforation with discharge

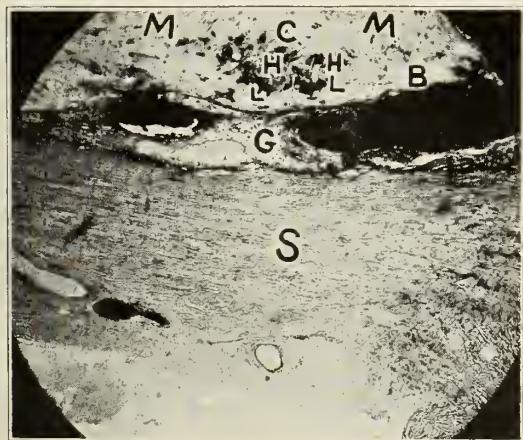


Fig. 7. Section through eye near optic nerve, showing, S, sclera, G, chorioid, B, bone, M, dense, avascular and hyaline-like connective tissue, C, center of degeneration in connective tissue containing lime salts, L, and cholesterol crystal spaces, H.

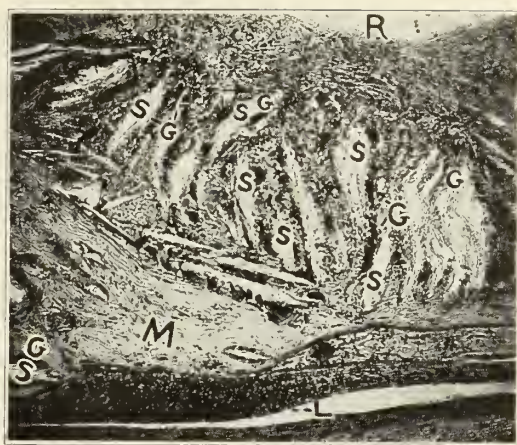


Fig. 8. Section through chorioid packed with small lymphocytes, L, and retina, R, swollen and disorganized with albuminous exudate and containing large cholesterol crystal spaces, S, lined by foreign body giant cells, G, dense, avascular and hyaline-like connective tissue mass, M.

of pus, all follow in rapid sequence, the whole being definitely an acute process. But if the process is not so fulgurating and subsides with the formation of an encysted pyogenic mass in the vitreous, the differentiation is not easy.

6. Detachment of the retina with dropsical degeneration of visual cells (rods and cones), described by De Schweinitz and Shumway, is very difficult to positively identify clinically.

7. Retinitis circinate. Although we usually think of the aged or those with advanced degenerative changes in the vascular system in connection with this condition, there is a group usually young people with an increased coagulability of blood who may be affected in this manner, and it has been reported that such an eye has been enucleated for neuro-epithelioma, the process being due to small hemorrhages distributed circularly about the macula with white masses of glial tissue forming in these areas.

8. Exudative retinitis leading to serous effusion and hemorrhage in and beneath the retina and leading to retinal detachment. The formation of connective tissue producing denser areas suggestive of neoplasm, the whole presenting a picture clinically undistinguishable from intra-ocular neoplasm.

Exudative retinitis was designated and described as a distinct pathological entity by George Coats.¹ The characteristic changes are those of the blood vessels of the retina with the formation of masses of connective tissue between the chorioid and the retina. Early in its formation this connective tissue mass is loosely arranged and full of cells; later it be-

1. Coats, George: Forms of Retinal Disease With Massive Exudation, *Ophthalmic Hospital Reports* 27:440, 1908; and *Uber Retinitis Exudativa. Retinitis Hemorrhagica Externa*, *Graefes Archives fur Ophthalmologie* 81:275, 1912.

comes compact, poor in blood vessels and eventually lime salts are deposited in it; comparatively often in this cicatricial tissue cystic spaces occur lodging remains of red corpuscles, cholesterol crystals and pigmented cell remains.

These exudations, at least in the beginning of the disease, have a direct connection with the external part of the retina but never with the chorioid from which they are separated for a long time by an intact glass lamella. The retinal pigment epithelium is found to be destroyed in stretches or to show proliferation; it may be present in the connective tissue mass in the form of epithelial lined tubules or as groups or masses of pigmented epithelial cells. In addition, Coats emphasized as characteristic of exudative retinitis more or less definite alteration of the retinal blood vessels, such as irregularity of the vessel caliber, hemorrhages, miliary aneurysms and formation of anastomoses. Coats considered the primary change in this condition was a bleeding from the outer retinal layers, the blood lodging between the chorioid and the retina; organization of this hemorrhage explained the formation of the connective tissue mass.

F. Schieck² stated that the changes in the retinal blood vessels in exudative retinitis are not always present but when they do occur they are so striking as not to be accidental. The remains of free hemorrhages into the vitreous, retina and the subretinal space are frequently found. The arrangement of the exudate in the fundus is entirely without uniformity, although the region of the posterior pole is rarely entirely free. The color of the lesion as a rule is white, frequently yellow and later gray. The retina itself is generally stretched, detached and degenerated. If all the pathologic findings designated as exudative retinitis actually belong in this category the manifestations must be exceptionally manifold. In this larger sense we consider the following case to be one of exudative retinitis:

REPORT OF CASE

White boy, aged 11, was brought to us January 31, 1931, with the history of an uncomplicated birth on December 24, 1920. Had varicella at age five and later, in the same year, had measles complicated with bilateral otitis media. Paracentesis of both tympanic membranes was done and patient made an uncomplicated recovery from the otitis media. At the age of six had pertussis without complication. No other illness until age of ten when, on January 20, 1931, developed a "cold" which settled in O. S. A Chicago oculist was consulted on January 23, 1931, who found O. S. blind. The patient was then brought to us. Our examination revealed: Conjunctiva clear; no discharge or other

signs of inflammation; VOD 20/20, VOS nil, not even light perception. Pupil O. S. moderately dilated. Did not react to direct stimulation by light but gave a consensual response. Pupil right eye moderately contracted. Reacted to direct stimulation by light but no consensual.

Intra-ocular tension normal both eyes. Ophthalmoscopic examination right eye failed to reveal any pathological change. Ophthalmoscopic examination left eye revealed whitish reflex from the depth of the inner eye caused by complete detachment of the retina, with grayish white areas over it and inferiorly numerous petechial hemorrhages and in the inferior temporal quadrant a subhyaloid hemorrhage. Transillumination revealed inferiorly several opaque striae one of which was thicker and longer than the others and extended inward from about the ora serrata. No injection of the globe was present and patient experienced no pain or discomfort.

Laboratory findings: Blood Wassermann, negative; R. B. C., 4,550,000; W. B. C., 7700; hemoglobin, 80; color index, .88.

Differential count: Small mononuclears, 54; large mononuclears, 1; neutrophil polymorph, 41; eosinophil polymorph, 1; basophil polymorph, 1; large mononuclears, 2.

The blood work was done by Dr. Ralph L. Thompson. The general physical examination failed to reveal anything of importance or anything that might have a bearing upon the ocular condition. The diagnosis was made of complete retinal detachment of the left eye possibly due to intra-ocular neoplasm, probably neuro-epithelioma, and in as much as the eye was hopelessly blind and there was the possibility of malignant tumor causing the retinal detachment, enucleation was advised.

On February 23, 1931, enucleation was done and specimen given to Dr. Harvey Lamb for microscopic examination. Dr. Lamb reported his microscopic findings:

REPORT OF DR. LAMB

(A) The walls of the arteries of the iris were generally thicker and more hyaline than in normal eyes of this age of development; a small degree of proliferation of their endothelial lining was seen in many arteries. The unpigmented ciliary epithelium over the posterior part of the ciliary body presented a small amount of hyperplasia and cystic degeneration. Just anterior to the anterior end of the the detached retina, on one side and lying in apposition with it, there was a large mass of connective tissue and young fibroblasts containing many small capillaries and diffusely infiltrated with small lymphocytes; much hemorrhage lay anterior to and within the connective tissue mass. The source of this mass was probably the walls of the retinal blood vessels.

The essential change in this eye, in addition to the total detachment of the retina, was the great amount of hyperplasia of the pigment epithelium between the chorioid and retina. In several places, large amounts of connective tissue had formed in this epithelial proliferation. Because proliferated unpigmented and pigmented cells from this layer and connective tissue derived from these cells lay anteriorly and centrally within the folds of the detached retina and posteriorly near the optic nerve adherent to the posterior surface of the retina, the hyperplasia of the pigmented epithelium must have preceded the retinal detachment.

Small areas of hyperplasia of the pigment epithelium was present in many places at the ora serrata. Connective tissue from the epithelial cells was sometimes seen forming small nodules

2. Henke-Lubarsch: *Handbuch der Speziellen Pathologischen Anatomie und Histologie*, Aug., 11, 1:668, 1928; and *Kurzes Handbuch der Ophthalmologie*, 5:517, 1930.

in this position. Wandering cells derived from the retinal pigment epithelium were found in albuminous fluid along the free surface of this layer, more particularly anteriorly. The pigment epithelium almost everywhere presented some change—deficiency of pigment, hyperplasia, disintegration of the layer or its complete absence. Under the connective tissue masses this layer was absent or proliferated sometimes into two layers. A thin infiltration with small lymphocytes was present in the chorioid under and near the hyperplastic areas. Near the optic nerve two flakes of bone lay within the chorioid. A large globular mass of hyperplastic pigment epithelium was present anteriorly within the retinal folds and similar extensive thick flat layers and small globular masses posteriorly along the chorioid and between the retinal folds. These masses were composed almost entirely of connective tissue containing varying numbers of young fibroblasts. The connective tissue fibers were arranged in strata, these strata were generally arranged circularly anteriorly between the retinal folds. The connective tissue strata were arranged parallel to the inner surface of the chorioid in the flat mass near the optic nerve and perpendicular to the surface of the chorioid in the large nodular mass near the nerve. This connective tissue contained only a very few small capillaries; the connective tissue was generally homogenous but rarely hyaline. Isolated centers of varying size in this tissue were seen where liquefaction of the connective tissue had occurred. At these places cholesterol crystals and deposits of lime salts were sometimes seen; foreign body giant cells occurred around many of the cholesterol crystal spaces.

In the subretinal albuminous fluid occurred wandering unpigmented cells derived from the retinal pigment epithelium and cholesterol crystal spaces. The retina was completely detached and lay entirely in the vitreous except near the optic nerve where it was closely adherent to the underlying newly formed connective tissue derived from the pigment epithelium.

The degenerated retina was generally irregularly thickened by edema, albuminous exudate and contained many hemorrhages. Posteriorly, some of the larger retinal blood vessels showed walls thickened by connective tissue, some of which was hyaline. In several areas the retina had been invaded by strings of retinal pigment epithelium. This invasion in quantity in some places at the ora serrata undoubtedly produced the dark striae observed clinically by transillumination.

(B) The optic nerve showed no changes.

Diagnosis.—*Probable* primary, toxic retinitis. *Secondary*, focal hyperplasia of retinal pigment epithelium with formation of considerable connective tissue.

Secondary degeneration in this connective tissue with solution of fibers, cholesterol crystals and deposit of lime salts. Formation of wandering cells derived from retinal pigment epithelium loose in subretinal fluid.

SUMMARY

To summarize, we have here presented a case of complete blindness of unknown duration, without subjective symptoms and only discovered when the patient at the age of ten years had his vision taken in the course of a routine examination for a "cold" in his eye.

The potentialities of such a blind eye we have attempted to present to you, and it may not be amiss here to emphasize the importance of taking the vision of each eye separately in all cases coming under your observation and particularly if the case comes to you for an ocular ailment. The testing of the vision in the simplest manner, as for instance covering one eye and having the patient read or distinguish objects with the uncovered eye, will often give us as well as the patient a shocking surprise. This testing of vision is a very simple procedure, requires no special equipment and no specialized training but is unfortunately too often neglected even in cases where the vision is patently affected. The routine examination of children's vision at school is a splendid thing, but it is our observation that of recent years too many cases are apparently missed. Also, each eye must be tested individually or the vision obtained is that of the better eye.

The most serious affections of the eye, as well as other portions of the body, are often without subjective symptoms in their incipency, so it behooves us to be constantly alert and avail ourselves of every opportunity to discover any deviations from normal.

The difficulties in the refinement of diagnosis we have also attempted to present to you together with emphasis on the fact that an eye which is sightless and a possible menace to the individual is best removed at the earliest opportunity.

The case presented is one of unusual rarity but we feel that the basic principles it teaches fit into the everyday practice of every practitioner, and perhaps some day the recording of the vision of each eye will be generally considered as important a part of a physical examination as listening to the heart sounds. The microscopic findings of connective tissue, cholesterol crystal and bone definitely stamp the condition as a pathological process of long standing and long antedating the "cold" in the eye which led to the discovery of the patient's affliction.

3511 Washington Avenue.

DISCUSSION

DR. HARVEY D. LAMB, St. Louis: The microscopic examination of the eyeball disclosed practically no change in its anterior part. The small arteries in the stroma of the iris exhibited more hyaline sclerosis than is normal for a child of ten years and many of these arteries presented a small degree of hyperplasia of their endothelial lining.

In the posterior part of the eyeball, we note that the retina was completely detached except where it lay just adjacent to the optic nerve (figs. 1 and 6). The retina was almost everywhere considerably thickened and disorganized by massive exudates of

albuminous fluid, edematous fluid and by less amounts of hemorrhage (figs. 3 and 4). Secondary to the retinal degeneration, there had occurred a pronounced hyperplasia of the neuroglia cells as well as a hyaline sclerosis of practically all the retinal blood vessels. In the anterior part of the detached retina there were seen strings and masses of pigmented epithelial cells derived from the retinal pigment epithelium. Associated with these collections of pigmented epithelial cells there were present varying sized masses of a dense avascular and hyaline-like connective tissue derived by a metaplasia from these pigmented epithelial cells (figs. 2 and 3). In one place anteriorly in the detached retina a large mass of connective tissue had been produced with several secondary centers of liquefaction having deposits of lime salts and cholesterol crystals (figs. 1 and 2). Around one such center there was a large and dense collection of fibroblasts (fig. 4).

At the ora serrata in one place a pronounced hyperplasia of the retinal pigment epithelium far inwards into the detached retina was evidently the explanation of the opaque stria observed by transillumination (fig. 5).

Near the optic nerve, also, were extensive and thick layers of this dense avascular and hyaline-like connective tissue lying between the chorioid and the retina; the retina remained closely adherent to much of these connective tissue masses (fig. 6). The retinal pigment epithelium at these places was either absent or proliferated into two layers. In connection with one mass of connective tissue near the optic nerve, a spicule of bone had been developed in the chorioid (figs. 6 and 7). I am certain that both the formation of the connective tissue and of the bone around the optic nerve are also examples of the metaplastic action of the neighboring retinal pigment epithelial cells. A small center of liquefaction containing cholesterol crystals and lime salts was present in the thickest layer of this connective tissue near the optic nerve (fig. 7). The production of all these centers of degeneration within the connective tissue masses is undoubtedly the result of the avascular condition of this tissue and the consequent inability of the nutrition to keep pace with the growth.

Lateral to the optic nerve and just posterior to where on one side the detachment of the retina began, the retina, swollen with albuminous fluid, contained many large spaces left by cholesterol crystals; along the sides of these spaces were many foreign body giant cells (fig. 8).

In conclusion, I wish to state that the pathologic picture presented by this eyeball is entirely unique and of great rarity. Coats' type of exudative retinitis involved principally the external layers of the retina. In Dr. North's case, all layers of the retina were involved in the exudate of serous fluid. The production of connective tissue layers between the chorioid and the retina was explained by Coats as the organization of fibrinous exudate, associated with hemorrhage in the external retinal layers and between the chorioid and retina. It would seem most probable that in Dr. North's case the primary change was that of the massive albuminous exudate almost completely throughout the retina with the much smaller amount of hemorrhage. These exudates must have come from the retinal blood vessels. A secondary irritation of the retinal pigment epithelium caused it to proliferate and these proliferated epithelial cells to become fibroblasts and to

form this special, dense, avascular and homogenous connective tissue. The observation of a large mass of this tissue anteriorly in the detached retina I do not think has ever been mentioned before in the literature.

The sections in this case were prepared at the laboratory of ophthalmic pathology of the Oscar Johnson Institute, Washington University, St. Louis.

INCIPIENT CATARACT

ITS INCIDENCE AND CARE *

M. HAYWARD POST, M.D.

ST. LOUIS

No doubt every oculist at one time or another has been impressed by the large incidence of incipient lens changes among his older patients, and has been more or less concerned over the proper attitude toward the problem which they present. The first question to arise is, how much if any information should be given the patient regarding the condition. Although realizing that the same approach is not suitable in each individual are there not, nevertheless, a few underlying considerations to be taken into account in all cases? Every one of us has had the experience of hearing that the last glasses were never quite satisfactory; or that those given by some well-known confrere were not just right, and then finding upon ophthalmoscopic examination the beginning of cataract formation, thus being confronted with the awkward predicament of carrying on the deception or of giving the patient the unwelcome truth. When this latter course is followed, even though advising of the probability that the presence of such changes is of recent development, there is bound to arise a suspicion in the mind of the patient as to the care exercised at the former examination. Under such circumstances an endless amount of conscientious work may be thoroughly discredited by the slightest insinuation. Is it not, therefore, wise and possible, without being an alarmist, to give the information that certain changes are taking place that may influence the vision unfavorably? Both from the standpoint of the patient and of the physician such would appear to be the sanest course, and if properly explained very little or no apprehension need be aroused. Indeed, on the other hand, vague dreads and fears may thus be mitigated. To a certain extent, the issue may be avoided by informing the family of the situation while keeping the patient ignorant. In a few instances this is probably the wiser course but I am inclined to feel that such cases are relatively few. I do not wish in the least

* Read at the 75th Annual Meeting of the Missouri State Medical Association, Jefferson City, May 23-26, 1932.

to be understood to advocate that the presence of cataract be indicated in so many words, but I do think that the patient should understand that changes are present in the lens which may cause disturbances of vision.

The next question arising is, what information can be given the patient regarding the frequency of various lenticular opacities. Are they rare and unusual or are they such as should be expected at the age of the individual under consideration. We all expect to run less swiftly, to grow a little short of breath, to lose a few teeth, et cetera, as we reach certain decades. Should we not also expect to develop lens changes and lose a certain portion of vision as life advances? As implied at the opening of this paper, all ophthalmologists know of the great frequency of cataract after middle life, but most of us are aware of it in a rather nebulous sort of way. Possibly we are acquainted with the old adage that "everyone becomes cataractous who does not die prematurely,"¹ but does this statement still hold true; or if true in Europe, is it also true in America where the wearing of glasses has been practiced to a greater extent than elsewhere? The opinion that proper refraction tends to lessen the incidence of cataract is universal, but have clinical studies proved such to be the case? And, finally, what is the likelihood of cataract at the age of those who come to us in our private practice, presumably from the more intelligent class of individuals?

Before proceeding further, it would be well to point out that all statistics hereinafter reported are based upon ophthalmoscopic evidence and that the proportion of positive cases is largely dependent upon the methods of examination and the condition of the pupil. Thus, it is undoubtedly true that were all cases examined with the slit-lamp the number of positive ones would increase greatly, as indicated by the statement of Vogt² that 90 per cent of all cases over sixty years of age examined for cataract show lens changes of one type or another and that wreath-like cataract can be observed in practically 25 per cent of all beyond puberty.³ Moreover, it is probably true that when still finer methods of observation are developed no lens will be found at any time of life absolutely free from certain degenerative changes leading to more or less localized opacities. The following observations must, therefore, be taken as clinical evidence, based upon ophthalmoscopic methods of examination.

Numerous statistics of clinic cases are available but few of private ones. Dor and Nagel⁴ in 1837 noted that 319 out of a total of 8008

cases in their clinic, that is, 8.8 per cent, showed lenticular opacities. Knapp,⁵ while studying in Europe, found 7.6 per cent in 10,004 cases and later, in New York, among 6379 cases, 5.5 per cent. De Wecker⁶ found 12 per cent in his cases, and Rydel⁷ 7.65 per cent, showing a range among these five observers of from 5.5 per cent to 12 per cent. As to age incidence, Arlt⁸ found that of 882 cases of cataract, 626 occurred between the ages of forty-five and seventy. Edward Jackson,⁹ working at the Wills Eye Hospital, found that out of 1545 patients over fifty years of age, 449 had some lens opacity. The incidence of these positive cases, arranged in five-year periods, was from fifty to fifty-five years, 15 per cent; fifty-five to sixty, 16.1 per cent; sixty to sixty-five, 30.2 per cent; sixty-five to seventy-five, 77 per cent.

Looking at the matter from a slightly different angle, and in order to study it from the standpoint of private practice, as indicated above, 504 cases presenting in all 1000 eyes, were reviewed in order to determine the incidence of cataract in five-year periods. Among these patients, six right and two left eyes had been lost through various accidents. All were taken from the records of our private practice in regular sequence, throwing out only such cases as suffered from complications, such as marked trachoma, corneal ulcers, advanced glaucoma, or similar lesions making them unsuitable for this study. In order to avoid any extraneous circumstances that may have attracted a larger percentage of cataract cases at one time than at another, the sequence of records reviewed was never continuous for more than two or three months at a time. In this way, observations were made over a period of approximately twenty-five years. It should be borne in mind that as it was obviously impossible in such a series to dilate all pupils, and to practice dilatation in some and not in others would result in erroneous statistics, all examinations reported were made with undilated pupils. The faintest striation of the lens, or the least sclerosis of the nucleus sufficient to result in distortion of the fundus picture, was considered a positive finding.

The series contained a total of 191 males and 313 females. The vision varied from 20/15 to perception of light. Vision of less than 20/38 was found in 139 and of these 69 had 20/150 or less. The ratio of cortical to nuclear changes was as 1.63 to 1. Seven cases were posterior polar; 21 were undifferentiated. Cataracts of all types were observed in 292, a percentage of 29.2 per cent positive in the total series. Dividing the cases into five-year periods of from fifty to seventy-nine years of age, and placing all those aged eighty and

above in a final group, the following results were obtained: From fifty to fifty-five there were 15 positive and 255 negative, or 5.55 per cent positive; from fifty-five to sixty there were 28 positive and 169 negative, or 14.21 per cent positive; from sixty to sixty-five, 57 positive and 139 negative, or 29.08 per cent positive; from sixty-five to seventy, 61 positive and 89 negative, or 40.66 per cent positive; from seventy to seventy-five there were 43 positive and 35 negative, or 52.56 per cent positive; from seventy-five to eighty, 54 positive and 20 negative, or 72.97 per cent positive; and in the final series, 34 positive and 1 negative, or practically 100 per cent positive. Thus the dictum that everyone becomes cataractous who does not die prematurely is substantiated by these results, and should we find it wise to tell patients of the presence of lenticular changes, these statistics present additional evidence to guide us in pointing out to them the frequency of such developments at their time of life.

The third problem then presents itself: Shall anything be done in the way of therapy; if so, what shall it be? I feel sure that the first reaction of most ophthalmologists to that question will be that medication, as a rule, is a waste of time and of no value, and possibly such is the case; but let us look into the matter fully before passing judgment. Cataract was early recognized, chiefly by reason of the loss of vision accompanying it. Among the ancient Egyptians, Greeks, Jews and Arabs, it was confused with hypopion and inflammatory plastic exudations. In order to make a differentiation from such conditions, some of the earlier books advised to "shake the head of the patient violently, in order to enable one to see whether the cloud is dissipated or altered in its appearance by this procedure." The Egyptians discussed the rising of water in the eye and the Hebrews stationary water in the eye, and based their preventive and curative efforts upon this idea. Many of the early peoples recommended such a division of the vessels of the forehead and temples as would prevent either a descent or welling up of water within the pupil. The procedure consisted in making an incision in the skin, carried down to the bone and kept open by the use of tents, scraping of the bone or the actual cautery. The Japanese and Chinese practiced aquapuncture followed by the actual cautery, believing the cataract formation to be the result of interference with circulation which they hoped to stimulate in this way; an idea which still receives credence but for which less heroic measures of therapy now have popular approval.

In more modern times, many forms of treatment have been recommended, most of them with no better results than these ancient measures. Among them may be mentioned tincture of *Cineraria maritima*, massage with ointments, intramuscular injections of benzoate of mercury, subconjunctival injections of mercury cyanide, radium in proper dosage as recommended by Brooks,¹⁰ and ethylmorphine hydrochloride in 1 per cent solution, suggested by Greenwood¹¹ for instillation two nights in each week. Kirby,¹² on the basis that, first, the process of the formation of subcapsular cataract is one of hydration, and, second, the process of disintegration or death of tissue outside of the body is accompanied by the liberation of acid ions, treated 80 cases by ionization, employing anions and cations. A. E. Davis¹³ suggested the use of lens antigen. In his experiments, subcutaneous injections were made every day for fifty days. He claimed that 85 per cent were arrested, 15 per cent improved. He did not, however, recommend this form of therapy in nuclear sclerosing or capsular cataract, nor in cases with vision below 20/70. Diathermy, one of the latest methods, is now under investigation and in certain cases appears to have given suggestively good results.

The most popular and widely used treatment has been iodine in one form or another and in various combinations. Pflugk¹⁴ states that the improvement following use of potassium iodide is probably the result of its action upon the epithelium of the lens and its surroundings. He used subconjunctival injections of potassium iodide, 0.2 parts, sodium chloride, 0.2 parts, and aqua dest. 10. parts, to one gram of which solution was added one drop of 1 per cent cocaine solution. These treatments were given triweekly and, alternating with them, dionin powder was insufflated into the conjunctival sac. This régime was carried out for four weeks, after which a two weeks' rest period was allowed before repeating the process. The dionin insufflation, however, was kept up continuously. The author noted great improvement following this treatment in the majority of 239 eyes, watched from four to five years. Gilbert¹⁵ reported 50 cases of double cataract treated locally by instillations of a solution of iodine into the eyes, reinforced by constitutional medication with the same drug. In one eye of each case he gave, in addition, subconjunctival injections of salt solution and ethylmorphine hydrochloride. The noninjected eyes showed slight improvement in 10 per cent, no improvement in 40 per cent and loss in 50 per cent. The injected ones showed improvement in 12 per cent, none in 42 per cent and loss in 40 per cent. It has been

my custom for various reasons to use potassium iodide instillations daily in a certain proportion of cases. A review of a number of cases so treated, as compared with a like number untreated, shows, however, a rather unfavorable balance for those receiving the instillations. The opinion is general that instillations are of less value than subconjunctival injections, but my faith has not been sufficiently great in either one to justify the more radical procedure.

Dr. John E. Weeks¹⁶ used a 3 per cent boric acid solution in glycerine as an instillation, with the idea of increasing the flow of blood in the anterior chamber. One thousand and two eyes were followed for an average of 5.53 years. The incipient cases were treated once daily, the more advanced ones twice daily. No cases showed untoward results. The progress in all was very gradual. Only 2.1 per cent came to operation. In discussion, however, J. W. Gervy pointed out that Dr. Weeks, an expert refractionist, had studied the refraction in all cases at short intervals and had watched the general hygiene as to diet, exercise and the use of the eyes, with great care and voiced the opinion of the majority of those present at the time of presentation in attributing the excellent results obtained rather to these factors than to the use of any specific treatment.

Despite occasional reports to the contrary, it would appear that local therapy is of little or very doubtful value in the treatment of incipient cataract, and that we must await further developments for any scientific specific method of procedure. In the meantime, what shall we do with such cases? As previously stated, it has been my custom to prescribe potassium iodide instillations, informing the patient, however, that the value of such treatment is very problematical but that on the other hand no harm would follow its use. When, despite this precaution, a patient recently asked if I were not the doctor who cured cataract by drops, my chagrin may be imagined at such a possible interpretation of my attempted therapeutics. There is, nevertheless, something to be said concerning the psychological benefit derived from doing something. Any treatment represents the tangible evidence that an effort is being made which may possibly be of benefit and that in the individual case there is the rare chance of improvement. Especially should such palliative treatment receive consideration in view of the fact that the inconvenience caused by incipient lens changes is often very slight, and in many instances very slow in its progress and little more amenable to one form of therapy than to another.

Be that as it may, whatever the judgment of the physician as to whether therapy is to be used or not, the patient should be impressed in some manner with the importance of keeping in close touch with the consultant, reporting at least once in six months, and should be warned of the importance of keeping the lids free from infection, with a view to possible future surgery; and, finally, should be instructed with regard to the benefit to be derived from the best possible hygiene. In addition, for comfort in the avoidance of glare, colored glasses may be worn with marked benefit.

To sum up the situation with regard to incipient cataract, it would appear best to inform the patient of the presence of some lenticular disturbance, assuring him at the same time that such changes are the common lot, possibly giving some statistics relative to his time of life, and impressing upon him that the best preventive measures consist in good hygiene and frequent checking of the refractive errors; and, finally, that careful supervision of the lids is necessary in order that no conjunctival nor lacrimal trouble be found should operation eventually become necessary, although, of course, the latter implication should never be made until the likelihood becomes quite evident. Whether some form of therapy or none is employed must rest, until further evidence shall have been presented, in the judgment of the individual physician.

524 Metropolitan Building.

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VOICE QUALITY

"Young children particularly respond almost instantly to sweet, quiet, low tones. Unfortunately, most persons when irritated allow their tones to become shrill, high and fault-finding. If a child never heard this kind of a voice, he would never develop one, providing, of course, he was not influenced by physical defects," Mrs. Aline Morley Ballard comments in the September *Hygeia*.

ADVANCES IN OPHTHALMOLOGY*

A. N. LEMOINE, M.D.

KANSAS CITY, MO.

In reviewing advances in ophthalmology before an audience representing the various branches of medicine I feel that one should not confine the discussion to the advances of the past year, but should go back several years, in as much as the researches and refinements in ophthalmic practice do not get into the general medical literature because they are highly technical and not of interest to men in other branches of medicine. However, it is very essential that all should know what can be accomplished and what should be expected of an eye physician and surgeon. Since ophthalmic literature is so voluminous and much of the writing in the nature of extremely technical research, only that which has a clinical application will be discussed.

Perhaps much of the material that will be presented may seem old to some; the advances are interpreted as the continuation or improvement upon what has gone before.

I will not attempt to include the voluminous bibliography as many of the statements made will be a summing up of the findings of several authors, with my conclusion on their merits as found in my experience or the observation of others' results.

DIAGNOSIS

The light sense has been developed to a point where it is a great aid in the early diagnosis of glaucoma. The characteristic contraction of the nasal field with a step is also an aid in the early diagnosis of the disease. We also find an enlargement of the blind spot which may extend into a beginning ring scotoma. This can best be brought out by the tangent screen or the Lloyds campimeter.

The development of the slit lamp has enabled us to demonstrate the thickness of the cornea in different parts; to find in what layer of the cornea an opacity is situated (this is a great aid in medicolegal cases); an increase in the number of cells can be seen in the anterior chamber before the onset of sympathetic ophthalmia; definitely locate any opacity of the lens thus greatly assisting in an intelligent prognosis, and detect the minute changes in the epithelium or the endothelium of the cornea.

Eczema of the lids has been found to be frequently due to allergies, such as to cosmetics or foods. Many cases of conjunctivitis not due to infection have been found to be allergies from cosmetics, foods, air borne substances,

such as pollens, etc. These may also cause vernal catarrh.

An organism has been demonstrated in trachoma. This organism has been cultured and transmitted to the monkey. The consensus of opinion is that it is most likely the major cause of trachoma. Other men have demonstrated that a number of cases supposed to be trachoma were tuberculous in origin, while others demonstrated that some cases were due to vitamin deficiencies, allergies and syphilis. Some even contend that trachoma is a noninfectious syndrome.

About 8 per cent of adult patients have been found to be hypersensitive to lens protein. This accounts for many cases of iritis in patients operated upon for immature cataract. By a skin test one can determine if the patient is hypersensitive to lens protein, and if the cataract is immature an intracapsular operation should be performed, or the operation should be postponed until the cataract is mature.

From 2 to 5 per cent of all cases of interstitial keratitis have been found to be tuberculous and not syphilitic in origin. In tuberculous keratitis the opacities of the cornea are more nodular and the tuberculin test is usually positive. These cases respond quite readily to tuberculin treatment and general measures.

Many cases of early multiple sclerosis have been recognized in patients complaining of blurred vision, by the taking of fields repeatedly for several days in succession. It was possible to make a diagnosis that could not have been made by any other means. In multiple sclerosis the fields especially for colors vary from time to time. Most cases of retrobulbar neuritis with color fields that change markedly are multiple sclerosis.

TREATMENT

The outstanding advances in therapeutics is the Gonin's ignipuncture for detachment of the retina. Gonin has demonstrated that in practically all detachments of the retina there is a retinal tear. In doing an ignipuncture the retinal tear is located and on the arc of a perimeter its location on the globe is determined. An incision is then made over the site of the tear and the tip of a fine cautery heated to a cherry red is inserted into the incision for fifteen or twenty seconds, depending upon the size of the tear. With this operation good results have been obtained in 24 to 64 per cent of the cases. These cases formerly were looked upon as hopeless. A number of modifications of this operation have been published and many of them reporting as good results as have been obtained by Gonin's operation.

* Read at the 75th Annual Meeting of the Missouri State Medical Association, Jefferson City, May 23-26, 1932.

The progress of cataract can be arrested in many cases by removing some known disease condition, such as foci of infection, correcting endocrine disturbances, keeping the eyes fitted with the best possible glasses and cutting down the use of the eyes for close work to a minimum. Dionin seems to be beneficial in incipient cases. By selection of cases and improved technic the complications in cataract operations have been diminished so that now the per cent of good results obtained in the hands of careful surgeons is 95 to 98 per cent. The Van Lint injection is a 2 per cent procaine adrenalin solution injected along the inferior rim of the orbit and from the external canthus up. By this injection the muscle is paralyzed, thus greatly diminishing the squeezing of the lids. A subconjunctival injection with procaine adrenalin above insures more complete anesthesia. Most surgeons have adopted some form of suture to lessen the possibility of postoperative rupture of the wound with resultant prolapse of the iris and vitreous. It has been shown that in patients hypersensitive to lens protein, if a considerable amount of cortex is left the patient usually develops uveitis due to an allergic reaction to the lens protein. If an extracapsular operation is indicated the patient can be immunized to the lens protein. The intracapsular operation with the Knapp or Verhoeff forceps is now regarded as the safest intracapsular operation but the per cent of loss of vitreous is still greater than in the capsulotomy operation.

Glauosan is a drug used to dilate the pupils in glaucoma and in selected cases is followed by a drop in the intra-ocular tension. Adrenalin chloride or superarenin bitartrate produces much the same effect; however, a number of disastrous results have been reported following their use.

A diversity of opinions has developed as to the treatment of glaucoma. One school advises operation as soon as the diagnosis of glaucoma is made; the other school advocates keeping the patient under observation and so long as the tension can be kept within normal limits, the fields remaining practically normal with no marked cupping of the discs and normal visual acuity, they advise postponing the operation until one of the above conditions begins to show signs of approaching danger. The argument in favor of immediate operation is that, sooner or later, if the patients live long enough they will all come to operation, and that a great number of patients will become indifferent about the continued treatment and observation and end in blindness. The consensus of opinion in cases of chronic glaucoma that require operation is, that some form of

filtration operation is the only type of operation that offers permanent relief. The operation most universally used is the Elliott trephine operation, but iridotaxis is gaining in popularity as well as several newer operations.

Blindness from trachoma has diminished very markedly in the past few years. This is most likely due to education of the public as to the dangers of the disease and the necessity of vigorous treatment and better treatment given by the profession. All the treatments aim at one thing, the destruction of the follicles. A number are advocating high vitamin diets, tuberculin, antisiphilic treatment, etc., according to the indication as seen by that particular physician in the case in question.

It has been found that the secretion in trachoma has a hydrogen ion concentration, consequently sodium bicarbonate is used either in powder or solution to keep the secretions and tissue alkaline and thereby promote healing with added comfort.

Light therapy has made inroads as a therapeutic measure as it has been shown to be beneficial in corneal ulcers, especially the dendritic and other neuropathic ulcers. The light used for this purpose is the Birch Hirschfeld radiation lamp. One must not lose sight of the fact that ultraviolet radiation is not entirely devoid of danger, consequently it must be used with care.

Nonspecific foreign protein therapy is now used by a great majority of oculists. It has been found useful in gonorrheal ophthalmia, uveal disease, keratitis, orbital cellulitis, etc. The foreign protein most commonly used is milk injections, beginning with 5 c.c. boiled from 5 to 10 minutes followed on the second day by 10 c.c. Intravenous injection of typhoid is also used extensively and it gives a much more marked reaction and apparently better results. The first injection should be 25 millions.

Tuberculin therapy has won a definite place in ocular therapeutics. It is useful in tuberculosis of the lids, tuberculous keratitis and uveitis, chorioretinitis and neuroretinitis. The dosage should be small enough so as never to give more than a very mild reaction and should be given from seven to ten days apart, depending on the negative phase, then increasing the dose just enough to give a uniform very mild reaction.

In early cases of internal hydrocephalus roentgen ray treatment to the choroid plexus has proven successful. It has also been found useful in cases of hypertrophy of the pituitary gland but by no means has it proved to be the treatment of choice. Roentgen treatment is very effective in severe cases of vernal con-

junctivitis but one must remember the danger of producing a cataract from prolonged treatment. This danger can be minimized by using a heavy gold filter inside the lids over the eyeball with the lids everted over it.

For spastic entropion novocain-alcohol injections have proved quite effective; 0.2 to 0.3 c.c. of 95 per cent alcohol solution is injected in the lateral portion of the lower lid.

To remove the coloring in argyrosis .2 per cent potassium ferrocyanide two parts, and one part of 12 per cent sodium thiosulphate, is injected.

The course of interstitial keratitis due to syphilis is greatly shortened by inoculation with tertian malaria. The patient is allowed to have from five to ten chills, depending on the general condition. This inoculation should be followed up with antisyphilitic treatment. Some cases were free from symptoms in two weeks.

A number of cases of epithelioma and melanotic sarcoma of the limbus, conjunctiva or cornea have been cured by applications of the thermophore at 48° to 50° C. for one minute. One application usually suffices.

Patients in their teens or early twenties with an alternating strabismus and good vision in both eyes can be operated on to correct the strabismus, and by proper orthoptic exercises develop binocular single vision in most cases. In patients who had a strabismus at birth it usually was impossible to develop binocular single vision as at no time did they have fusion.

1100 Rialto Building.

DISCUSSION

DR. C. SOUTER SMITH, Springfield: Dr. Lemoine mentioned nonspecific therapy which I feel is not used enough in the practice of ophthalmology. Dr. Harvey Howard has done considerable work along this line in different eye conditions; he reports that after the needling of congenital cataracts, foreign protein treatment causes a more rapid absorption of the lens material; also, following capsulotomy for senile cataract, where considerable lens material remains, nonspecific therapy will produce more rapid absorption and tend to prevent iritis. I am using it in practically all accident cases where iritis is feared. In those cases in which iritis or iridocyclitis has already developed typhoid vaccine given intravenously gives splendid results.

I often use milk injections in conjunctivitis other than gonorrheal, where a rapid recovery is desired. I feel that it would be difficult to practice ophthalmology without nonspecific therapy.

CITRUS FRUITS

Citrus fruits came first from China and other parts of Asia and a long time ago were introduced into the country near the Mediterranean Sea and then into the western hemisphere. Miss E. M. Geraghty writes about fruits in the series of articles in *Hygeia* on "Foods—Their Selection and Preparation."

ANEURYSMS

FRANK I. RIDGE, M.D.

KANSAS CITY, MO.

"An aneurysm is a blood-containing tumor, whose walls are formed by the walls of a blood vessel, and whose cavity is in direct connection with the blood vessel from which it arises."

Such is the definition of Sir William Osler.¹ This, I believe, is as exact a definition as we have today. The word "aneurysm" is taken from the Greek word meaning a widening out. This condition, as related to blood vessels, was first described by Galen (A. D. 131-201). He mentions two forms, one due to dilatation and some intrinsic cause, the other usually due to injury of the vessel wall by trauma (probably arteriovenous type). Vesalius in 1543 was probably the first to make a diagnosis of thoracic aneurysm ante mortem. Ambroise Paré in the sixteenth century recognized the existence of aneurysm and described the thrombosis within the sac. He was the first to comment upon the relation of venereal disease to this condition and suggested syphilis as an etiological factor. It remained for Lascasi in 1728 to establish the definite role of syphilis in aneurysm. The next advance to our knowledge of this condition was due to the demonstration by Scarpa in 1805. This was, that the important mechanical factor in the production of aneurysm was due to a weakening of the middle layer or media of the arterial wall. Perhaps ancient aneurysms were not syphilitic, but our present day concepts would lead us to think that atheroma and septic emboli were not the complete picture of the conditions described.

Classification of the different types of aneurysm is not an easy matter. The dividing line between pathological dilatation and pressure expansion is a ground upon which there can be much difference of opinion; especially as between aortic dilatation and the so-called fusiform aneurysm. Adami² considers a condition which he terms strain, hypertrophy of the aorta. This he conceives to be due to a constant hypertension which mechanically stretches the blood vessels to such an extent that there is a rupture of the elastic tissues and a stretching of the intima with a resulting accumulation of cells. This condition occurs more frequently about the arch, and often causes a dilatation to as much as four centimeters. From my own observation, I believe that most of our so-called dissecting aneurysms have this pressure factor, with an atheromatous plaque as a background, more often than they do syphilis.

The incidence of aneurysm as allocated to the different portions of the arterial system has

remained practically constant since the report of Crisp³ in 1847, in which he came to the following conclusions from 530 autopsied cases:

Thoracic aorta	175
Popliteal artery	137
Femoral artery	66
Abdominal aorta	59
Carotid artery	25
Subclavian artery	23
Axillary artery	18
External iliac artery.....	9
Cerebral artery	7
Common iliac artery	2
Posterior tibial artery	2
Gluteal artery	2
Pulmonary artery	2
Brachial artery	1
Subscapular artery	1
Ophthalmic artery	1

In passing, one might comment that considering our changing civilization, machine age and prohibition, there has been no definite change as referred to the vessels involved excepting those of the arteriovenous type due to the injuries of war.

The frequent occurrence of aneurysm in the first portion of the aorta is easily explained by pressure, stress, the increased vascularization of its walls and the increased lymphatics adjacent to it. Just why the popliteal and femoral arteries should be involved more often than the abdominal aorta, the carotids and the subclavian, I am at a loss to explain, unless by direct trauma to the vessel walls or by involvement from adjacent infectious processes, such as pelvic disease, in relation to the iliacs; mastoid infection and sinus infection to the cerebral arteries. Helwig and Wilhelmy,⁴ reporting three cases of mycotic aneurysm complicating bacterial endocarditis, conclude that this condition is frequently overlooked due probably to the more obvious diagnosis of endocarditis. Arteriovenous aneurysms are usually self-explanatory in origin, following punctured wounds and secondary infection.

Aneurysms are classified by Hirschfelder as follows:⁵

1. True aneurysm.
 - (a) Sacculated.
 - (b) Fusiform.
2. Dissecting aneurysm.
3. False aneurysm.
4. Arteriovenous aneurysm.
5. Cirroid aneurysm.

Probably further qualifications of these types should be presented before discussing them.

1. True aneurysm (*aneurysma verum*; *aneurysma spontaneum*), in which one or more of the coats of the artery form the walls of the tumor.
 - A. Dilatation aneurysm:

(a) Sacculated, in which the bulging or out-pocketing of the walls does not embrace the whole circumference of the artery and is sharply localized.

(b) Fusiform (or cylindroid) aneurysm, in which the dilatation occurs over a larger area of artery whose entire circumference is involved in the dilatation.

2. Dissecting aneurysm, in which the coats of the artery are separated and a new cavity (sometimes lined with endothelium) is formed between these layers (usually between media and adventitia).
3. False aneurysm, following wound or rupture of an artery, consisting of a periarterial hematoma, all the coats of the artery having been penetrated.
4. Arteriovenous aneurysm, a communication between artery and vein, either direct—aneurysmal varix, or with the intervention of a sac—varicose aneurysm.
5. Cirroid aneurysm, or telangioma, a tumor consisting of a large number of tortuous arteries which are continuous with the artery from which they arise (retinal vessels).

In this article I shall discuss the eleven cases of aneurysm which have come under my observation during the last twelve years, all in private practice and ambulatory at the time of first observation. In this group there were nine sacculated—true aneurysms—all involving the aorta, two cases of dissecting aneurysm, one involving the first portion of the aorta and one beginning in the descending aorta just above the diaphragm. Every case was in a male, ten of them white persons and one a Negro; the age incidence ranged from thirty-four years, the youngest, to sixty-eight, the oldest. Of these cases, five are still living and enjoying some degree of usefulness. The two patients with dissecting aneurysms died within thirty-six hours of the beginning of the rupture symptoms. Death in each case was caused by arterial thrombosis, one coronary and one mesenteric, which precipitated gangrene and peritonitis. Before taking up the sacculated aneurysms I will give a very brief history of these two cases, the symptoms, physical findings and autopsy, they having been patients previously for other causes.

REPORT OF CASES

Case 1. White man, aged 68, always very active but never any hard labor. Had retired from business six years previously. He spent most of his time playing golf or taking motor trips. His father died at 96 following a prostate operation. Mother died of typhoid, aged 36. One sister died of mediastinal abscess following postpharyngeal abscess, aged 52. One brother died of coronary thrombosis, aged 70. Wife died of malignancy, aged 62. Three sons living and well. He denied all venereal infection; Wassermann negative. Never had any acute or prolonged illness but had been subject to neuralgic headaches for years. This pain was localized at the occiput and the back of the

neck. Never had shortness of breath. Blood pressure one month previous to rupture was 146/88. (Endowment examination.) In fact, there was not the slightest indication or symptom of vascular disease. He did not use alcohol and was a very moderate smoker.

I was called to see him about 4 o'clock one morning, because of terrific pain, starting between his scapula and extending into his right shoulder. His history was that the previous evening about 9 o'clock he had difficulty in starting his car after church services and was forced to crank it several times. While doing this he had experienced a severe pain in the right shoulder and the back of the neck but considered it to be a muscle strain. After starting the car he drove home, probably the distance of a mile, and then retired. There was still some pain but not severe. Evidently he had gone to sleep because he was awakened with an excruciating pain where the previous one had occurred but now it extended entirely down his back and there was a violent cramp in both legs.

When I saw him he was evidently in shock; perspiration was standing out on his forehead; face was ghostly white; hands cold, as was his entire body; pulse 64 and regular; heart sounds audible but faint; blood pressure 90/52; radials equal; no vomiting and no abdominal tenderness; right lower extremity white and no tibial pulse; size of the heart and aorta did not seem large on percussion.

Under large doses of morphine he lived for twenty-six hours. After about ten hours the right limb became stone cold. There developed some abdominal pain but was not severe; did not void urine; by catheter only eight ounces were recovered; temperature rose to 99 3/5 and the pulse rate to 84. Of a sudden, he straightened up in bed, clutched his precordial area, and was dead.

Without going into detail, the autopsy revealed a rupture of the aorta 2 cm. above the ring and a dissecting aneurysm extending along the posterior wall of the aorta for a distance of 15 cm. where it apparently ended in a blind sac. The width of this dissection was approximately one half of the circumference of the vessel. This pouch had its opening through the intima and the dissecting pressure had pushed what little of media tissue that was present toward the intimal side so that really the aneurysm and its contained clot were between media and adventitia. About this opening there was practically no atheroma and except for the site of rupture and the resulting infiltration the aorta appeared grossly negative. At the bifurcation of the right iliac artery was a semi-organized fresh thrombus which occluded that vessel. Also, there was a fresh thrombus occluding the right coronary artery (probably the immediate cause of death). Heart was not enlarged and valves were normal. Section of heart muscles showed no pathological lesion but section of aorta and pulmonary artery showed a hyalization of the connective tissue and numerous breaks throughout the elastic tissue, a condition approximating the mesarteritis dessicans of Whitman and Stein.⁶

The second case of dissecting aneurysm rupture occurred while the patient was asleep, with much the same symptoms excepting that there was no neck pain. There was, however, a right shoulder pain, not as severe as in the first case. The severest pain was referred to the epigastrium. This patient was 56 years of age, a retired cattleman. Family history negative, no history of venereal disease and

Wassermann negative. Had never been ill. Used alcohol rather extensively and smoked continually. Occasionally had some gastric distress, usually relieved by soda. No history of undue exertion. In fact, he had spent the evening playing solitaire. About 8:30 he retired and I was called by 9:30. Upon arrival, I found the patient in extreme shock, face moist and lips cyanotic. He was in dreadful pain, vomiting continually, pain severest in epigastrium but referred down both lower extremities. Pulse was 120 per minute, irregular and of poor volume. Heart sounds were pure but second sounds were very faint. A diagnosis of acute pancreatitis was made and he was sent to the hospital for observation. Upon arrival at the hospital his pulse was 166 per minute and very small. Temperature 102.2, respiration 30; blood count 16,300 with 80 per cent polymorphonuclears. Abdomen markedly distended and board-like. Operation was deferred till morning but he died before going on the table.

Autopsy revealed a dissecting aneurysm of the descending thoracic aorta, beginning just above the diaphragm and extending into the right iliac artery. There was also a new thrombus occluding the mesenteric artery with gangrene of the intestine. Sections of the aorta showed no marked mesarteritis, but there was a diffuse atheroma, and it was beside one of the plaques that the initial rupture took place.

Here are two cases neither of which could be attributable to direct trauma, at least trauma within the memory of the patients. One case was suggestive of mesarteritis dessicans as the etiological factor, the other with atheroma as a background, neither case giving the slightest indication of syphilis.

I am inclined to believe that atheroma plays a greater role in the story of dissecting aneurysm than is usually credited to it. Probably the best explanation of how this takes place is the theory of Von Moller, Flockemann, Schede, quoted from Hirschfelder:

As long as the lumen of the artery is uniform, the blood exerts only a lateral pressure upon the arterial walls, which acts "across the grain" of the arterial coats. However, when calcified plaques project into the lumen, these tend to impede the blood current so that the longitudinal pressure of the latter acts as well. As Boestrom has shown, the resultant force acts in a parabola pointing outward and downward. When this is acting upon an area where the media is thinned or absent, it tends not only to split the coats "with the grain," but also to push the adventitia outward. The wall gives way, the split lengthens and the outer sleeve is formed. Whether or not the aorta then ruptures depends upon the ability of the adventitia alone to withstand the blood pressure.

The coagulation of the blood within the sac depends upon the formation of fibrin ferment in the tissues of the adventitia and the rapidity of the blood flow within the new formed sac. It is quite frequent for extensive and even total coagulation of the contents to take place.

The remaining cases to report are those more commonly recognized, namely; aneurysm of the ascending aorta and the arch. Of these

nine cases five are still alive, or were two months ago. One case of this type died of myocardial failure; three cases died of rupture, all of them definitely luetic; one bleeding into the pericardium, one rupturing into the esophagus and one rupturing into the pleural cavity. A conservative estimate would be that 90 per cent of the aneurysms involving the first portion of the aorta are due to syphilis.

There are perhaps three factors conducive to syphilitic invasion of the aorta in these locations: first, the trauma of the circulatory stress; second, increased vascularity (*vasa-vasorum*) of the arterial walls, syphilis being especially a disease of the small blood vessels which would of course be an added hazard, and third, the observations of Klotz⁷ relative to the invasion of the first portion of the aorta are very impressive. He calls attention to the great prevalence of mediastinitis and peri-aortitis in acquired syphilis, and that these conditions are very prevalent in aneurysms. Martland⁸ in his report on syphilis of the aorta and heart remarks that aneurysms in cases of hereditary syphilis are rare, and says: "If the mediastinal theory is correct in the localization of acquired syphilis in the aortic root, it might be possible that the aorta escapes, in congenital syphilis, because the lungs of the fetus have escaped the large dosage of the organisms that the other organs have received, due to the fetal circulation not passing to any extent through them." From these deductions he draws his conclusions that "it therefore seems reasonable to believe that the lesion in early aortic syphilis is a lymphatic extension of spirochetes from the reservoirs in the mediastinal lymph nodes by retrograde lymph flow, into the perivascular spaces around the *vasa-vasorum*." That this theory seems tenable I will demonstrate by lantern slides of one case that shows this mediastinal infiltration before and after treatment; the second view is definitely different and made one year afterward.

The gross and cytological pathology of aortic syphilis has been well described by many and numerous observers since the original contribution of Welch. These findings consist mostly in sharp areas of localized collections of wandering and plasma cells involving the media of the vessels and vascular granulation tissue projecting from these foci into the intima. Giant cells are present in many instances. These areas undergo ordinary granulomatous changes and necrosis and produce characteristic wrinklins, scars, faults in the elastic tissue planes and the depressions so apparent in the gross pathology. The elastic layers of the vessels stand the brunt of the infection and frequently are entirely destroyed

by the necrotic process. The changes in the adventitia consist mainly of an accumulation of wandering and plasma cells about the lymphatics and some scattered about the *vasa-vasorum*, giving the typical picture of an endarteritis. The intima of the blood vessels is of less importance as its involvement is usually dependent upon traumatic occurrences, except in the cerebral vessels where there is found elastic tissue in the intima. This is an especial point of differentiation in contradistinction to the involvement of atheroma.

That syphilitic invasion of the aorta need not be by channels outside the intima is controverted by McMeans.¹⁰ He reports from cases autopsied, wherein he is convinced that there is a primary invasion of the intima of the arteries, including the aorta. He cites four cases to support the point. However, in his conclusions, I believe he has neglected to take into consideration the calibration of the vessels involved as conducive to bacterial infarction.

The symptoms of early aneurysm, except from a mechanical standpoint, are so closely correlated with those of aortitis that they cannot be separated. One would be led to believe that the first symptom of aortitis, which is of necessity the forerunner of aneurysm, is shortness of breath and fatigue. In this I do not agree with most observers. It has been my experience that pain antedates shortness of breath. However, this pain is not relegated to the zones of cardiac enervation. In fact, it is more of a sympathetic, referred sensation, frequently localized in the back of the neck, so-called neuralgic headache, and at other times it is referred to the right shoulder. (In fact I have seen two diagnoses of golf shoulder; and both died of luetic aortic disease.) I believe that if really careful histories were taken, most of these patients would remember and tell you that they had had for quite some time previous to their examination, an indefinite pain referable to the distribution of the sympathetic system, as stimulated by aortic zones. Shortness of breath, of course, is very prevalent but I believe that this is somewhat later in the picture than the manifestations of infectious irritation.

The classical symptoms of aneurysm, of course, are those determined by physical examination—an extensive dulness over the manubrium, mostly at second and third interspaces. Differentially, a persistent thymus and substernal thyroid must be ruled out. Substernal thyroid may give you a bruit, a very confusing point. Probably the exact differential can only be made by fluoroscopic examination, and that done by an experienced

roentgenologist as a substernal tumor of glandular origin resting upon the aorta may seem to be pulsating. (Much to my regret and chagrin, I made a diagnosis of aneurysm on a mediastinal sarcoma.) At the same time, Hodgkin's disease, infiltrating the mediastinal glands, may give you a shadow simulating aneurysm and be very deceptive. Two-meter plates, or orthodiagrams, in the anteroposterior position may be deceptive and unless these observations are made angularly and laterally one cannot say conclusively that there is no aortic dilatation. Tracheal tug was present in only three of my cases. A dusky, rather bluish color of the face is fairly characteristic in these cases.

Aneurysm *per se* does not change the size of the heart to any great extent. The only cardiac enlargement, usually in the left ventricle, which occurs incident to aneurysm is due to a defective aortic valve with regurgitation. An aneurysm may be exceptionally large but, unless there is a valvular deficiency, there will be no marked cardiac hypertrophy. Inequality of the pulse is dependent upon the location of the dilatation.

The blood pressure in aneurysm of the aorta does not show any appreciable elevation until there has been some dilatation of the aortic ring and insufficiency of the aortic valve. There is, as a general rule, preceding the low diastolic of aortic insufficiency, a slight elevation of diastolic pressure, probably due to vagotonic stimulation. This may be responsible for the booming, bell-like second sound heard at the aortic area. The obvious symptoms of aneurysm—those observable after erosion of the ribs and those observable by expansile pulsations manifested over the precordium, supraclavicular spaces, or to the left of the spine posteriorly, do not require comment. Auscultation over these areas gives the classical to and fro murmurs. According to Warfield,⁹ the dilatation of the vessel does not in itself produce symptoms except by pressure upon adjacent viscera and nerves. It is rather difficult to agree with this statement inasmuch as any inflammatory process having an innervation must demonstrate some reaction to non-physiological conditions. Were this assumption to be followed, the diagnosis of early aneurysm and inherent dilatations, as demonstrated by Adami, would not be elicited subjectively, and we all have seen cases, preaneurysmal and predilatation, which have shown symptomatic reflexes.

The patient with an aneurysm or an aortitis, be it thoracic or abdominal, is better off untreated than over-treated by an enthusiast who expects to make a cure. In my experience with

the last eleven aneurysms I have come to the conclusion that the regulation of the diet and work is of more benefit than any specific medication I can give. I do not believe an aneurysm is curable but is and always will be progressive in its development in spite of all medication. I also believe that the more vigorous the medication the more rapidly the termination of life will ensue. Some syphilographers believe that arsenicals are contraindicated in aortitis and in aneurysms of luetic origin. Salvarsan, when first put upon the market, was advanced as a cure for all syphilis. It did eradicate many of the manifestations. At the same time it does stimulate spirochetal nests and, I believe, increases not only the production of aortitis and aneurysm but also the neurological conditions due to this infection.

The majority of clinicians think the Herxheimer reaction is produced only by the use of salvarsan and its derivatives. Arsenicals alone are not to be blamed for this reaction, as described by Herxheimer. Both mercury and bismuth will produce the same reaction. This type of reaction may be local as well as systemic.

I believe that careful and continued use of mercury by inunction, orally or by injection, in conjunction with the iodides, is still the best treatment when there is evidence of vascular involvement. Certainly, before the development of salvarsan there was a lower mortality in the early decades of life from cardiac conditions due to syphilis than there is today. One might conclude that the over-treatment of the etiological factor in aneurysm is not advantageous. I do not believe treatment should be neglected but that it should be guarded and especially conservative. In my opinion, salvarsan is contraindicated in all cases having vascular syphilis. The observation of Klotz, referred to before, was that the energetic treatment of these syphilitic conditions seemed to produce a fading of the peri-aortitis and an alleviation of symptoms, especially of pain and shortness of breath, but the size of the aneurysm did not change. I believe the aneurysm increases more rapidly in that there is a lessening of restraining pressure too rapidly for compensation.

These eleven patients were and have been under constant observation and treatment. For the past five years only mercury, bismuth and the iodides have been given for syphilis. Previous to that time I did give occasional small doses of neosalvarsan (.15) to several of them. In each of the cases so treated the size of the aneurysm seemed to increase more rapidly than it did in those who had no arsenic. They had increased pain, usually following an

injection. Their dyspnea was increased and their mental attitude markedly depressed. They became very irritable and could not get to sleep without an hypnotic. All died within five years from the time treatment was started. In the patients who did not receive arsenic and who have died, the average life after the beginning of treatment was eight years. The five patients still under observation have been under treatment for four, six, nine, eleven and twelve years respectively, and are apparently doing well.

The effect of proper medication upon the untreated case would seem to give rather spectacular results, probably due to the fading of the mediastinal infiltration. Roentgen rays show this very definitely. Upon first glance it would



Fig. 1. The Effect of Treatment of Peri-Aortitis.

seem that the size of the aneurysm had diminished but more careful inspection reveals that the size of the vessel itself has not changed. The relief of subjective symptoms is almost as striking. There is less pain and dyspnea and less nervousness. Cough, if present, is usually lessened and the feeling of precordial oppression is not so marked.

Antiluetic treatment alone does not constitute our entire obligation to these patients. They are potential cardiopaths and should be handled as such even though their valves are intact and there is no evidence of myocardial involvement. The continued external hypertension sooner or later wears down the muscle reserve and cardiac failure takes place. Digitalis, intelligently used, gives very good results, especially subjectively. Mechanical wiring or pressure by pads, I believe are of no value. In fact, I think they are detrimental.

REPORT OF CASES

Case 1. J. S., aged 44. Present complaint, shortness of breath on exertion. Occupation, stage hand. Works in a moving picture theater and the physical exertion required is minimal. Intestinal and renal functions normal. Use of tobacco is very moderate. Consumption of alcoholic beverages variable.

Has always been healthy, probably has had ordinary diseases of childhood. Never had any fevers or "flu" that he knows of. No operations. Has been subject to attacks of tonsillitis and quinsy; some night sweats but no chills. After eating chili has some flatulence; no unconscious spells. Gonorrhea at 20 and chancre with secondary at that time. Treated for three months.

Between four and five years ago, began to have neuralgia, referred mostly to his left shoulder but deviated to right shoulder and up back of his neck. This pain was made worse upon exertion and upon exertion he had shortness of breath; as he explained it, "his lungs would choke up." From that time to date this handicap has gradually increased in severity and he finds the amount of work he can accomplish is diminished especially work entailing exertion; also says breath is shorter in damp weather (?). Never had any edema of ankles and in clear weather has no difficulty in lying flat in bed with one pillow, but in damp weather it is a different story. So far as elicited in the history, never had any bloody sputum and the coughing spells to which he has been subject have been mostly after exertion. However, there is a rather paradoxical distribution of pain sensations in the exercise of certain muscles; namely, exercise of the arms and upper thorax give him an occipital headache. On the other hand, when he has to climb to the scene-loft, the pain comes in his lower extremities, and after resting from this exertion he invariably has a substernal ache. Occasionally he has experienced dizziness and diffuse numbness which lasts from five to thirty seconds. In the last year he has lost 16 pounds and in personal estimation has lost 10 per cent in strength. He has no nocturia.

Physical Findings.—Probable focal infection of tonsils. Blood pressure, right arm 110/38; left 92/50. Heart dimensions, apex 2 cm. outside left nipple line in the sixth space; in the second and third spaces, to the right of sternum, aortic dullness extended 3 to 4 cm. Diastolic murmur over entire aortic area. (By that I mean that no one can preclude aortic disease without having listened both to the right and to the left of the sternum.) However, to the left, in the second space, the murmur is not quite so noticeable.

Lungs are negative. Abdomen is negative. Liver is not palpable. At this examination, hemoglobin was 65 per cent; red blood cells 4,260,000; white blood cells, 9850; with a differential showing 6 per cent eosinophiles, which was rather suggestive. The urinalysis was negative for albumin, sugar and microscopically. Wassermann positive.

Electrocardiographs taken at intervals do not show more than a left axis deviation, with perhaps prolongation of the P-R interval, and inversion of the T in both first and second leads. This cannot be considered without other substantiating evidence as of myocardial origin for we must consider the plane of conduction, which is quite variable.

This case is still under treatment and doing well. Profiting from previous experience, I have not attempted to give arsenicals and realizing that Herxheimer reactions can be stimulated by mercury and bismuth as well as by arsenicals, I have been very conservative in treatment and have developed, I hope, a tolerance for a constructive antiluetic treatment in the future; this I do not believe can be done by primary or early over-medication. Also, I do not consider that a positive Wassermann or Kahn, no

matter how delicate the technic, is indicative of the degree of activity of the pathological condition.

Case 2. C. D. H., aged 47, male, clerk; being inquisitive, I determined that his work was in the cold room in a packing house where he was subjected to temperatures so variable that peripheral circulation has to be taken into consideration. Was referred to me for pain in right shoulder.

Family History. Father died of apoplexy at 67; mother living. Patient married 16 years, wife has had no conceptions. Had the usual diseases of childhood.

Could not remember ever having had an initial lesion. This factor was rather closely questioned. Seven years previously had "flu" and pneumonia and, according to his statement, the beginning of the present illness was about four months after that time. Symptoms at that time were substernal pain which was not as severe as the pain in the occiput. For that reason he was referred to a nose and throat specialist who found sinus infection and operative treatment did not give much relief. The next development was neuritis in right arm and shoulder. For this he went to a physician who diagnosed syphilis and gave him rather strenuous treatment with arsenicals. After three treatments he had to quit work because of pain in right arm, shortness of breath and inability to write, which was a part of his duties as a clerk.

Stimulation to reaction having already been instigated by previous treatment we thought it best to await a more opportune time for further medication. After rest and by periodical mercurial treatment we were able to prolong the life of this man over a period of three years; part of the time he was working. He died suddenly from rupture, which is the usual end of aneurysm. In this case, the rupture was into the esophagus.

Case 3. H. R., aged 37. This is, I believe, one of the most instructive cases of over-medication. Here was a negro man who had never in his life been subjected to manual labor, whose occupation from 17 years of age had been that of chef or cook. According to statistics, the incidence of aneurysm in the Negro race is due to their exertion as stevedores and ditch diggers. This case rather refutes that contention.

No history of family infection. Had one child living but suffering from tuberculosis. No history of initial infection or secondary manifestation. None of the exanthematous diseases and no history of illness until he was suddenly seized with a sharp, substernal pain while dancing, vomited and had a slight period of unconsciousness. Was taken to hospital where he came under my observation. Upon close questioning I was unable to elicit any previous symptoms due to heart failure. He had never known unusual fatigue, had never had edema or dyspnea. Had some gastric discomfort which he attributed to his fondness for pork. Also, for the last three years, had some "neuralgia," in his neck which he attributed to working over a hot stove with a draft at his back. He was kept in bed and radiographs were taken. These showed a large, diffuse aneurysm of the aorta and a markedly hypertrophied heart with aortic regurgitation. Blood pressure 140/0; pulse 90; temperature normal, blood count and sugar normal. Urine showed a faint trace of albumin. Wassermann four plus. Treatment consisted first in rest and the ordinary cardiac routine with iodides and mercurial injections. Not until he had had three months of mercury, 1 grain

intramuscularly twice a week, was any attempt made to give arsenical preparations. Then he was given 0.15 gram of neosalvarsan; this was immediately followed by an exacerbation of his previous symptoms. Thereafter he was given mercury and iodide periodically but no more arsenicals. This man lived five years, under observation, working daily and feeling no discomfort or pain and objecting to a compulsory three days' rest each month.

Following this case to its conclusion, there was a period of two years during which he had apparently no symptoms aside from slight shortness of breath. During that time he married again; his wife conceived and either acquired or had syphilis. Their child, his second, was born after a normal labor with no obvious markings of congenital lues and is alive today. Unfortunately, this man, through well-wishing friends, fell into the hands of a specialist, or rather a cardiologist whose understanding of syphilis was rather limited, and he immediately began salvarsan resulting in a very acute exacerbation of the symptoms and aortic rupture; the hemorrhage being into the pericardium, with a short, compressive death.

It would be wholly a reiteration to present further cases. I can give you my conclusions, and these are that the too energetic treatment of aortic syphilis and aneurysm, latent or early, is not conducive to longevity of the individual.

1010 Medical Arts Building.

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SILENCE IS GOLDEN IN CHILD WITH SHRILL, FALSETTO VOICE

The quality of control or modulation is the chief attribute of a beautiful mode of speech. Add to this a natural, easy utterance, clear and distinct, carrying full expression, a wide range of sound and beauty of tone, and the result is the perfect speaking voice.

Silence is golden in the child with a high-pitched, nasal tone. Aline Morley Ballard tells in the September *Hygeia* how highly desirable is a beautiful voice. Good teeth, a nonconstricted, clear and open throat, and a nasal passage free from obstructions are the first essentials. Good posture and correct breathing are the second set of prerequisites.

"Like company manners, speech cannot be put on at will. It is far easier to acquire good habits in childhood than it is to destroy faults in maturity," the author adds.

TREATMENT OF NEPHRITIS *

DONALD R. BLACK, M.D.

KANSAS CITY, MO.

Before one can outline rational therapy for nephritis he must have a clear conception of the pathological anatomy of the kidney in nephritis, be familiar with the alterations in normal kidney function caused by the organic changes, and above all, keep definitely in mind the signs and symptoms produced by the kidney lesions, as well as the numerous associated changes entirely extrarenal in origin.

Most classifications of nephritis are based first, on anatomical findings at autopsy; second, on specific alterations in physiology, indicated by response of kidney function test to fit the various groups of the anatomical classifications; and third, an attempt on a pathological basis to account for the varied and bizarre symptom complexes, both renal and extrarenal, of clinical nephritis.

It is apparent then that the physician on whose shoulders rests the responsibility of treating nephritis be at once an expert pathological anatomist, physiologist, chemist and excellent clinical observer. One might well ask, who is sufficient for all this?

Pathological classifications have thus far dominated the best efforts of workers, and they naturally form the most logical basis for classification from everyone's standpoint, but I doubt if the gloomy picture presented by the pathologist and his conception of what must have happened before death, justify his hopeless outlook on therapy. Consequently, the clinician must adopt a more practical, even if somewhat speculative, conception of the disease and use as a working hypothesis a classification similar to Mosenthal's.

I should like to propose the following outline as a guide to treatment of nephritis:

(A) PATHOLOGICAL CLASSIFICATION OF BELL

I. Nephrosis.

- A. Chemical
- B. Infections
- C. Pregnancy
- D. Amyloid

II. Glomerulonephritis (Inflammation)

A. Focal

- 1. Embolic
- 2. Benign hemorrhagic

B. Diffuse

- 1. Acute
 - a. Proliferative
 - b. Exudative
 - c. Extracapillary
- 2. Subacute
- 3. Chronic

- a. Contracted
- b. Noncontracted (Lipoid nephrosis)

III. Hypertensive (Vascular)

- A. Without renal insufficiency
- B. With renal insufficiency
 - 1. Slowly progressive
 - 2. Acute fulminating

IV. Exudative interstitial nephritis (Inflammatory)

- A. Acute interstitial
- B. Pyelonephritis
 - 1. Hemogenous
 - 2. Urinogenous; ascending

(B) RENAL FUNCTION

The primary function of the kidney is two-fold: (1) the excretion from the blood of certain waste products, and (2) the closely related maintenance of an optimal chemical equilibrium in the blood. For the purpose of this paper it is sufficient to say that these objects are accomplished by a process of simple filtration from the blood of all substances that go to form normal or pathological urine, through the glomerular wall. This capsular filtrate is simply a deproteinized blood plasma, mildly alkaline and very dilute. As this capsule urine flows down the tubules a certain amount of resorption, chiefly of water, salt and glucose, takes place by selective activity of the tubular epithelium. The reabsorbed fluid and threshold substances necessary to body economy pass back into the blood stream through the tubular epithelium in amounts sufficient to make proper equilibrium in the blood and tissues. Time will not permit a detailed description but the interested reader may consult Cushney's monograph and the work of Richards and his co-workers. Certain points, however, apply to our problem.

As stated, filtration plays the all-important role in the production of urine. Therefore, the kidneys with their 5,000,000 functioning units, i.e., the glomeruli and tubules, must be considered as a large filter and as such do they obey the natural laws of filtration.

1. If the density of the filter and the filtration, or blood, pressure are constant the rate of filtration will vary with the character of the substance to be filtered, the blood.

2. If the density of the filter and viscosity of the blood are constant the rate of flow will depend upon the blood pressure.

3. If the blood pressure and viscosity of blood are constant the rate of urine formation and also the character of the filtrate will be governed by the density of the filter.

This last law constitutes the stumbling block to rational therapy because it is inconceivable even to speculate on the possibility of adequate function in autopsy specimen of diffuse glomerulonephritis. Certainly, as Bell, Vollhard and Fahr and others have shown, the glomeruli with their capsular spaces are so filled with inflammatory exudate and are so dis-

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tended with cloudy swelling and edema that filtration would be impossible; and when one considers that the blood supply of the tubules is a continuation of the efferent arteries of the glomeruli, then one must realize that tubular reabsorption must vary with the condition of the glomerular tuft—fair in mild glomerulonephritis, but with advancing changes the tubules must suffer interstitial changes from lack of blood supply.

It is important to know that in order to produce 3 liters of urine daily 1,000 to 1,500 liters of blood must pass through the normal kidneys. There must of course be a decided increase in the amount of flow necessary to produce the polyuria of chronic nephritis and this increased rate of flow must detract from the accuracy of reabsorption, osmosis and normal exchange of threshold substances. These facts can be demonstrated in any case of chronic glomerulonephritis or arteriosclerotic nephritis.

Another point of practical value is the fact that, as Richards has shown, not all the glomeruli function at one time; some can be seen at rest, others partially active and others active. It has been estimated that about three fifths of the glomeruli can be at rest at a given time and still be consistent with normal function. Thus we explain not only the remarkable reserve power of the kidney, but also how much destruction of functioning tissue by disease can be effected before ordinary kidney function tests will show abnormalities.

(C) EDEMA

The primary factors in the production of edema of Bright's disease are:

1. Decrease of colloid osmotic pressure of plasma. By colloid osmotic pressure is meant the totality of pressure with which the colloid in question tends to retain water. The total protein content of plasma does not always determine the amount of osmotic pressure because different types exert different pressures; for example, one gram per cent of plasma protein from a patient with nephrotic edema exerts much less osmotic pressure than a similar quantity from a normal individual; also, the osmotic pressure exerted by one gram per cent albumin is more than that exerted by an equal percentage of globulin. It is also known that in general the osmotic pressure varies with the concentration of colloids and when a given plasma is diluted, the colloid osmotic pressure decreases proportionately more than does the protein content of plasma. This factor is of importance in explaining the low colloid osmotic pressure in such conditions as nephrosis.

2. Increase in permeability of capillary walls so that protein molecules can pass through.

Practically this is similar to the first factor; i.e., if the tissue fluid, as a result of increased capillary permeability, contains 2 per cent protein and the plasma 7 per cent, then the effective colloid osmotic pressure of the plasma proteins is that of but 5 per cent protein.

3. Increase of hydrostatic pressure in the blood capillaries. This is difficult to measure but it can be said when the intracapillary pressure is greater than the osmotic pressure of the colloids that transudation of fluid takes place from the capillaries into the surrounding tissues.

Thus we may say that nephrotic edema is due to decreased colloid osmotic pressure. The protein content of nephrotic edema is low, less than 0.1 per cent. This type of edema is also seen in nephrotic stage of glomerulonephritis, amyloid disease of kidneys and hunger or nutritional edema. Except hunger edema, this type always follows loss of such quantities of protein in the urine that the colloid pressure of the plasma falls very low. The protein content of edema of glomerulonephritis is above 1 per cent, presumably due to increased permeability of capillaries.

Increase of hydrostatic pressure of the capillaries accounts for most of the edema in chronic nephritis and vascular nephritis. It is the so-called cardiac edema and is entirely extrarenal in origin. It is surprising to note the effect of bed rest and small doses of digitalis in this type of edema.

Sodium chloride retention, per se, does not produce edema, because in cases of anemia from any natural cause edema may not be present even though the blood chlorides advance rapidly; but once the edema is established the sodium and not the chloride ions assist in the retention of water.

The treatment of edema varies with the type in question. In general, one may say that without ingestion of water edema other than hydropic swelling cannot exist. Therefore the first step in treatment is fluid restriction. In severe renal insufficiency the retained nitrogenous waste and other toxins are rendered less noxious by the diluting power of edema fluid, consequently marked fluid restriction in these cases tends to invite uremia.

In the second place, salt restriction is important. In many instances the response to fluid and salt restriction is so marked that other measures are not necessary. Usually to be effective the total salt intake should not be above 2 to 2.5 grams daily.

Diuretics: Salts which produce acidosis, ammonium chloride and nitrate, calcium chloride. The mechanism is not quite clear but cases of cardiac and, to a lesser extent,

nephritic edema respond well. These salts do little good when renal insufficiency is present. Many observers, especially the British, hold alkali therapy important in treatment of both nephritis and edema. For example, Lyons insists that the entire benefit of basic diets is centered around the alkaline reaction produced. Purine diuretics again work best in cardiac edema because the various members of the group act by improving the rate of circulation through the kidneys. Diuretin in doses of $7\frac{1}{2}$ gr. 4 times daily is frequently followed by excellent results.

Mercurial diuretics: All are familiar with the diuretic effect of calomel. Salyrgan has largely displaced calomel and while the direct action of mercurials is not known, it is assumed that the action is largely extrarenal again. They work best in cardiac edema, second in nephrosis, and most investigators believe they are contraindicated in renal insufficiency, although occasionally in desperation they are used with partial results in uremia.

(D) UREMIA

Uremia as we shall consider it applies to the type associated with marked renal insufficiency and definite nitrogen retention. The usual symptoms are oliguria, muscular weakness, languor and drowsiness with inability to sleep for long, muscular twitchings, mental disorientation, headache, dryness of the mouth, foul thick brown coating of tongue. Frequently, gastro-intestinal symptoms dominate the picture and uremia may be ushered in by lack of appetite, nausea and vomiting; constipation is the rule, but occasionally marked diarrhea is present, frequently accompanied by abdominal pain, blood and pus in stools, and at autopsy typical uremic colitis is seen. Cardiac failure is frequent, usually due to myocardial change from hypertension but, according to White, the heart muscle suffers at the expense of circulating nitrogen waste. The skin is usually pasty and pale and pruritus is frequent.

The most important aid in diagnosis is blood chemistry. Given a case with symptoms suggesting uremia, an absolute diagnosis can be made if there is definite elevation in nonprotein nitrogen. Phenolsulphonaphthalein elimination is useful. Two hour test for specific gravity, especially in patients with nocturnal polyuria, furnishes valuable information.

Treatment of uremia: Since uremia results from renal insufficiency there are three methods of treatment: 1. Diminution of quantity of urinary products to be excreted. 2. Improvement of excretion by kidneys. 3. Promotion of extrarenal excretion.

Diet is important. Carbohydrates and fats

are burned to CO_2 and water and can be excreted extrarenally, but there is no extrarenal excretion possible for the products of protein metabolism. Consequently, protein must be reduced to a minimum. Patients can withstand protein restrictions as low as 20 grams daily for two or three weeks. Beyond this point they develop negative nitrogen balance and will metabolize their own body nitrogen, and it makes no difference from a standpoint of kidney insufficiency whether the protein with which it has to deal is ingested or intrinsic. There is, however, no proof that protein from red meats differs from protein from other sources. Apparently there is no proof that protein is positively nephrotoxic. However, condiments and spices are irritants and should be avoided. I usually allow citrus fruit juices, milk, cereals and fruits in quantities sufficient to control hunger, and gradually add vegetables, custards and meat as the kidney function improves, expecting to carry the patients on protein intake not to exceed 0.75 to 1 gram per kilogram of body weight.

Improvement of function of the kidneys: Unfortunately we have no direct means at hand to control this problem. The density of the filter is such that function is impossible. However, I feel that two principles should be explained: (1) Cardiac tone should be improved in order to maintain maximum pressure, and (2) dilution of the blood or substance to be filtered through the kidney. If we assume that the glomeruli are so engorged that they cannot filter the heavily laden blood, we can at least by a process of dilution approach the proper solution. I use fluids intravenously and believe that small amounts of glucose facilitate the problem. I frequently give 1,000 to 1,500 c.c. of water with 20 to 50 c.c. of 50 per cent glucose intravenously and at times, especially if the uremia is due to acute glomerulonephritis, the results are very striking. Edema is not a contraindication, especially if ordinary measures have failed in its reduction. I do not favor sweating because only water can be recovered and it is paradoxical to assume a condition produced by concentration of nitrogen waste products due to kidney insufficiency on the one hand and to attempt to increase the concentration by sweating on the other. However, in mild cases sweating dilates the peripheral blood vessels and makes the patient feel better. The same applies to purging.

Extrarenal excretion: As noted above, in such cases sweating helps a little. Venesection has very little detoxifying effect. It can be resorted to in case of failing circulation. Sedatives frequently are necessary. Cocaine by mouth frequently relieves the vomiting and not

infrequently in cases where edema of the brain is present lumbar puncture is of decided value.

(E) ACIDOSIS

The role of acidosis in nephritis is a complicated problem. There is a definite relation between renal insufficiency and retention of phosphates and sulphates. The acidosis of nephritis is roughly parallel to the increased retention of these two elements. There is little reason to suspect much depletion of fixed base unless there is excessive vomiting or diarrhea, although a slight depletion always occurs. Diabetic and starvation ketoses are of vastly different origin and are not being considered here. The slight depression of fixed base is difficult to explain. It is easy to understand how a nephritis with renal insufficiency might lead to retention of less diffusible acids, but difficult to understand how the same process should cause waste of fixed base. Briggs offers the following explanation:

"Since water diuresis makes the urine more alkaline, excretion of acid is increased but excretion of ammonia remains fixed. Diuresis therefore causes waste of more base than acid. In chronic nephritis there is increased urine production which must indicate a compensatory increased rate of flow through the remaining tubules and glomeruli. This increased rate of flow is associated with imperfect reabsorption of water and a fixed base and to a lesser extent of chlorides. Since this compensatory diuresis is sustained day and night, evidence of slight depletion of fixed base is explained."

The problem in treatment for the acidosis in nephritis is to replace fixed base and to promote excretion of sulphuric and phosphoric acids. Mariott and Howland were unable to show that ingestion of alkali, e.g., sodium, promoted excretion of either phosphate or base. On the other hand, administration of calcium produces decrease in phosphates in blood, not by increased excretion in urine but by excretion in the intestinal tract. Strontium has a similar action. Samsen, Blatherwich and Smith are strong advocates of basic diets in the treatment of nephritis. They assume that the alkaline value of the diet is of importance in maintaining fixed base by neutralization. Lyons has a similar view but allows protein to amounts of 0.75 gram per kilogram of body weight. From evidence presented by Briggs it would seem that the chief value of alkaline or basic diets lies in their limitation of phosphoric and sulphuric acid.

(F) ANEMIA

In glomerulonephritis and also in hypertensive and vascular nephritis and nephrosis

anemia is usually one of the first serious threatening factors. It rarely occurs until renal insufficiency has begun to manifest itself and hence has diagnostic significance. Once developed, it progresses rapidly and not infrequently dominates the clinical picture. Usually one might say that anemia is less marked in patients with marked hypertension. About the only effective methods of treatment developed thus far are high protein diets, at least one gram protein per kilogram body weight. The other method is transfusion of blood. It has been considered that transfusions might increase blood pressure and throw added stress on the kidney to the extent that total uremia might develop. Both these hypotheses lack clinical proof and we feel that transfusions occasionally prolong life. The various preparations of iron, liver extracts and ventriculin have little or no effect on this type of anemia.

(G) HYPERTENSION

In this discussion we will consider the hypertension of acute, latent and chronic glomerulonephritis and the more common chronic hypertensive nephritis, which is merely one of the end-results of vascular hypertension. Since glomerulonephritis is a disease of the arterioles of the kidney, and since the vascular disease is not confined to the kidney, and since one of the characteristics of this vascular disease is angiospasm, Vollhard believes that the spasm is not confined to the kidney but is universal and thereby accounts for the hypertension. Whether there is such a factor as obligatory renal hypertension is not known but we can surmise that extrarenal constitution plays the important role.

One must differentiate between vascular hypertension and hypertensive Bright's disease. Most cases of vascular hypertension succumb to cerebral catastrophes or cardiac failure before serious renal involvement occurs. Vascular hypertension is a circulatory disease characterized prominently by high blood pressure and involving more or less generally the arterioles of the body. As a result of the somewhat progressive arteriolar sclerosis, the blood supply is gradually cut down to various tissues and secondary nutritional and atrophic changes take place in the various organs affected. When these changes take place within the kidney to such an extent that renal function measured by any of the present function tests is affected, we consider that the patient has hypertensive nephritis.

I will now outline the treatment of four cases, using as a basis for diagnosis Bell's outline and as a guide to therapy, the observation noted above.

REPORT OF CASES

Case 1. A girl, aged 11, normal in every respect until an attack of mild scarlatina from which she recovered 2 weeks ago. The throat was red and cultures showed hemolytic streptococci. She had fever for about 6 days and has desquamated and feels fine. Her blood pressure and kidney function and blood chemistry are normal. During her febrile course she had a trace of albumin in the urine. There was no blood or pus and no casts were seen. We reasoned that she had a febrile albuminuria. There was no edema and we hardly considered infectious nephrosis. Two weeks following cessation of fever she had slight puffiness of face, malaise and headache, but there was no increase in blood pressure. Her complete blood chemistry and kidney function tests were normal. She was mildly anemic. We concluded infectious nephrosis and put her at rest, gave a normal diet, including meat, milk and eggs, with an abundance of citrus fruit juices. The puffiness of face continued for 3 days. Albumin remained in the urine for about 2 weeks, disappeared and she has remained normal ever since.

Case 2. Mrs. R., aged 26, had been well all her life. Three months ago during fourth month of pregnancy developed sore throat, headache, general malaise and some fever. Puffiness developed in face, hands and feet, complained of slight blurring of vision but did not develop hypertension, although urine was loaded with albumin and casts but no blood. She miscarried and all her symptoms disappeared. One week before admission to hospital she developed sore throat with return of original nephrotic symptoms. On admission she had generalized edema; blood pressure was 120/80; blood count: hemoglobin 60 per cent; R. B. C., 3,200,000; urine contained albumin, finely and coarsely granular casts, fatty and pus casts, 15-30 W. B. C., no R. B. C. Ophthalmoscopic examination negative. She had infected tonsils. Blood chemistry: N. P. N. 30.6; creatinin 1.6; uric acid 3.2; chlorides 4.80; sugar 96.5; cholesterol 220; total protein 5.2 with serum albumin 3.2 and serum globulin 2.0. B. M. R. 18 per cent decrease.

We made a diagnosis of nephrosis, assuming that she had had a combination of nephrosis of pregnancy and infectious nephrosis originally and at present lipoid nephrosis. She was given blood transfusion, high protein diet containing 100 grams daily, including liver extract with iron. Reduced her fat to 100 grams, gave small doses of thyroid extract, gr. 1, t. i. d.

Within 15 days edema had subsided, hemoglobin had reached 72 per cent and urine contained only a trace of albumin and an occasional cast. Tonsils were removed and she was dismissed on a diet of protein 80 grams, fat 125 grams and carbohydrates to taste, with 2 gr. thyroid extract daily. She remained symptom free for 14 months and came in again complaining of headache, failure of vision and recurrence of edema. Her blood pressure was 170/105, retinal vessels showed slight exudate. There was slight cardiac enlargement; the electrocardiogram was normal; edema marked. Hemoglobin was 62 per cent; R. B. C., 3,000,000. Blood chemistry: N. P. N. 68; creatinin 2.8; uric acid 4.6; sugar 115.6; cholesterol 180; chlorides 4.88. Total protein 6.2 with serum albumin 3.2, serum globulin 3. B. M. R. 12 per cent decrease. Albumin continued heavy trace, finely and coarsely granular and pus casts, 20-30 W. B. C., occasional R. B. C.

We diagnosed nephrotic stage of glomerulo-

nephritis. She was put to bed; protein was reduced to 80 grams, fats to 65-70, and diet made up of fruits. She was given blood transfusion and again liver extract, to supply the protein loss. Thyroid increased to 1 gr. t. i. d., small doses of digitalis. She made a somewhat slower recovery but left hospital with normal urine and blood chemistry with almost normal blood count. We have seen her on several occasions since. At times the nephrotic element, and at other times the nephritic element predominates. We treat her symptomatically depending upon which element predominates, and so far she has responded nicely. She probably will develop into a chronic glomerulonephritis later and die a renal death with nitrogen retention and signs of uremia.

Case 3. A boy, aged 17, was seen first in 1925. He had recovered from scarlet fever five weeks, later developed mastoiditis which was operated on four days before I saw him. Past history and family history were negative. Four weeks following scarlet fever he had noted some headache, slight shortness of breath on exertion and general exhaustion. His urine contained a large amount of albumin, red blood cells and finely and coarsely granular casts. The total amount of urine was 800 c.c. The blood pressure was 160/95. Eye grounds were negative and his blood chemistry was normal except for a slight elevation (41 mg. per 100 c.c. blood) nonprotein nitrogen. His phenolsulphonethalein test was 18 per cent in 2 hours. He developed acute mastoiditis and was operated on under ether. On the third postoperative day he developed severe headache, rapid failure of vision, nausea and vomiting. Was very irritable, mentally confused and finally passed into a semiconscious state. The question arose as to the possibility of brain abscess. Neurological consultation revealed nothing definite. On ophthalmoscopic examination discs were swollen but this was no definite vascular disease. His blood pressure rose to 190/105. Blood chemistry: N. P. N. 70; creatinin 2.5; uric acid 4.3; chlorides 4.90; cholesterol 185. Blood count: Hemoglobin 65 per cent; R. B. C. 3,600,000; W. B. C. 11,000 with differential count normal.

His urinary output was reduced to 300 c.c. in 24 hours. He had practically no edema, just a little puffiness of his face and hands. We diagnosed acute glomerulonephritis. Reasoning that little could be done to change the histological condition of his kidneys, we faced the problem of adjusting his treatment to coincide with the pathology known to be present. He was unconscious. We made lumbar puncture to relieve slight edema of the brain. We next thought of kidney rest. Carbohydrates and fats are burned to CO₂ and water, both of which can be eliminated extrarenally. Protein is the only article of food which requires elimination through the kidneys, so we restricted protein, not from any preconceived nephrotoxic properties but to lighten kidney work. We reasoned that he was toxic due to retained nitrogen waste. We did not sweat him because we reasoned that only water would be eliminated and that we would simply concentrate his toxins, so we resorted to dilution, first to preserve kidney function if possible by excreting more dilute urine, second to dilute toxins. We gave him 1,500 c.c. water with 50 c.c. of 50 per cent glucose intravenously and in four hours he could recognize relatives and friends and could talk in six hours. The following day he voided 1,200 c.c. urine containing albumin, blood and casts, but his N. P. N. had dropped to 50 mg. per 100 c.c. blood.

We felt that he could subsist without danger of negative nitrogen balance for at least 2 or 3 weeks on 20 grams protein per day, consequently he was given a very low protein ration, the diet consisting of milk with its 4 per cent of protein and felt we were benefited by its calcium content, fruit juices, cereals and cream. We continued abundant fluid intake.

He rapidly recovered and left the hospital with normal blood chemistry, still slightly anemic, with trace of albumin in urine, few R.B.C. and casts in urine, although the urine had lost its smoky appearance. He was put on a diet of 70 grams protein with enough carbohydrates and fats to maintain weight and strength. He gradually recovered strength but for the next 7 years would have slight exacerbations of his nephritis following head colds and various exposures, especially when unusual exertion was involved. We considered that he had a chronic or latent glomerulonephritis. His blood pressure varied from 130 to 150 systolic on these occasions.

Three months ago he developed bronchopneumonia; recovered in three weeks but two weeks following recovery began to complain of malaise, headache and irritability. Blood pressure was 190/110; eye grounds essentially negative and he passed three liters of urine in 24 hours. He developed quite an extensive edema and was quite short of breath on exertion; had numerous rales at both bases and his electrocardiogram showed myocardial exhaustion. There was no appreciable abnormality in his serum-albumin-globulin ratio and we reasoned that his edema was largely circulatory, although we considered the possibility of toxic increased permeability of his vessels. His blood N. P. N. was 65, and gradually rose to 120. Edema largely disappeared by rest and digitalis. We utilized the same principles of treatment given originally but the response was not similar. At present we feel that many of his functions are hopelessly beyond repair and that our problem is to rest the remnant of functioning kidney tissue. We cannot keep him indefinitely on low protein diet, so we allow him 70 grams daily but omit condiments and spices. We reason that the calcium in milk is sufficient for any therapeutic effect it might exert on permeability of blood vessels, so we give him a basic diet of meat, eggs, potatoes, rice, tapioca, fruits and vegetables, restricting such cereals and fruits as are known to have distinctly acid ash. Sweetbreads, kidneys, oysters are known to have acid ash. We feel that nitrogen balance must be maintained because intrinsic protein is as difficult for the kidneys to eliminate as ingested protein. We advised him against exertion and against medication directed to the kidney because they are useless. We feel that in general, diuretics are valueless except in cardiac edema and perhaps not without some danger. We feel that with such a régime he will live longer and more comfortably until he gradually progresses to terminal uremia and dies.

Case 4. Mr. J., aged 59, entered hospital complaining of shortness of breath, swelling of feet and ankles, headache, dizziness, failure of vision and frequent attacks of complete loss of consciousness. His mother died of apoplexy, two maternal aunts and one uncle died of apoplexy, one brother has hypertension and has had one cerebral hemorrhage. This man was refused life insurance 10 years ago, primarily because of moderate hypertension and albumin in urine. He had infected tonsils, three dental abscesses, was 5 feet 9 inches in height and weighed

90 pounds. Electrocardiogram showed left ventricular predominance and increase in ventricular conduction with low T waves in I and II. Heart was enlarged in all dimensions and the aorta was widened; few moist rales at both bases; otherwise physical examination was negative. His blood count was normal. Blood chemistry: N. P. N. 70; creatinin 3.2; uric acid 4.6; sugar 123.9; chlorides 4.86; cholesterol 180.

Since there was no history of acute infectious disease and no history of acute nephritis, we assumed that this was a case of hypertensive nephritis with an arteriosclerotic basis. We assumed heredity as a most reasonable etiological factor, and considered that the general degenerative process was exaggerated by a high pressure business career. This man was an incessant worker and took little recreation.

He was put at bed rest, small doses of digitalis, a diet of carbohydrates 150 grams, proteins 60 grams, fat 100 grams. The carbohydrates were given in the form of fruits, fruit juices and cereals. He was given small doses of digitalis. We considered that enough base was present in the diet to control the slight acidosis. He was given liberal quantities of fluids, as much as 2,500 c.c. daily, reasoning that his edema was circulatory. The edema rapidly disappeared in three or four days, without the use of either purine diuretics or salyrgan, although we would have given salyrgan in small doses with ammonium nitrate if the edema had persisted, and would have anticipated no particular kidney damage. This has been our experience in other similar cases. He was given small doses of iodides with no proven scientific basis other than the fact that the idea is considered respectable for its antiquity, and in isolated cases, associated with an increased basal metabolic rate, a rational basis is found. He was also given small doses of sodium nitrite.

The blood pressure gradually decreased to 160/90; his blood chemistry dropped to nearly normal and we had his tonsils removed and the three abscessed teeth extracted, not with the idea of their etiological influence but because I have not been convinced that focal infection is not capable of increasing the severity of coronary sclerosis and increased kidney damage. He did well and was dismissed. He continued to have his dizziness and lapses of memory which we considered evidence of cerebral sclerosis with angiospasm.

Suddenly one evening after dinner he became unconscious, fell to the floor and when he regained consciousness some 30 minutes later could not use his left arm or leg. He was simply put to bed and nothing was done, but within 36 hours he could use his arm and leg in almost perfect manner. I saw him some three days later and considered that his cerebral catastrophe was an attack of so-called hypertensive cerebral encephalopathy. His blood pressure was 220/135, but his blood chemistry was normal. He had a reduced PSP output and was passing three liters of urine in 24 hours, 700 c.c. of which was passed at night. The specific gravity was fixed between 1.004 and 1.010.

I think this patient began as a so-called essential hypertension with general arteriolar spasm. Later the process was localized more particularly in his kidneys, as evidenced by nocturnal polyuria and evidence of renal insufficiency. I think this man will, if he successfully evades cerebral hemorrhage or cardiac failure, die a renal death as all such cases of essential hypertension do, and present at autopsy the typical findings presented in Dr. Bell's demonstration of sclerotic nephritis.

The best advice I can give him from now on is to live a sedentary life, avoid exertion, gradually reduce his weight (rapid weight reductions are not tolerated well in patients of this age), use a low caloric diet with protein not to exceed 70 grams daily. In general, his diet should be basic, principally composed of dairy products, cereals, fruits, vegetables, reasonable amount of meat and eggs. He should avoid alcohol, condiments and spices. If he is nervous, small doses of luminol, but suggestion and reassurance are frequently better. I think he needs small doses of iodides and very small doses of thyroid extract.

CONCLUSION

In conclusion, let me try to clarify the present controversy between those who believe in high, and those who still persist in low, protein diets in nephritis.

There has always been a feeling that none of the waste products of protein metabolism are excreted through the kidney; that the natural conclusion would be to save kidney function by limiting protein intake, and since most observers restrict protein when nitrogen retention is present, why not restrict it from the start. They cite the fact that kidney function tests are not sensitive enough to show poor function until nearly all the kidney is diseased and consequently there is no definite point from which to start limitation of protein. They also point out the fact that some observers, notably Newburg and March, think they can demonstrate nephrotoxic products in protein. Bienstock has recently inserted allergy with the already complex problems of treatment. He feels that certain persons are sensitive to protein, but unless definite allergic symptoms, general or renal, occur, that there is no reason for restriction.

The mass of work at present indicates that protein of any kind is not nephrotoxic and that more damage can be done by the long continued protein reduction and its associated negative nitrogen balance than the hypothetical toxic properties of protein on renal epithelium. Chittenden has presented experimental proof to the effect that man needs only 0.66 gram protein per kilogram of body weight, and that more is useless and not without danger. Hurst found that the average protein intake of people in the temperate zones the world over is about 100 grams daily. One might ask whether the experimental facts presented by Chittenden are correct and the instincts of men through the past generations are wrong.

924 Professional Building.

Unless much time and effort are devoted to the children who have not been infected with tuberculosis, they will afford a constant stream irrigating the field of tuberculosis. To blight tuberculosis, control this stream. It is the ounce of prevention that protects the child, Dr. J. A. Myers suggests in *Hygeia* as a solution to an important part of the tuberculosis problem of this country.

TUBERCULOSIS OF THE KIDNEY*

JOHN R. CAULK, M.D.

ST. LOUIS

Tuberculosis of the kidney still remains a problem of intense interest to the urological surgeon and one of vital concern to those engaged in the general practice of medicine. It has been estimated that renal tuberculosis occurs in about 16 per cent of all patients with urological lesions; that 10 per cent of all patients dying with tuberculosis have kidney involvement; that a little less than 1 per cent of all surgical operations are performed for the relief of this lesion, and that autopsy statistics reveal that 1 per cent show demonstrable evidences of this disease.

I beg to present for your consideration an analysis of 263 cases of renal tuberculosis which have occurred in my practice, many of the details of which will not be reported in this communication since they have been recently published in the *Journal of Urology*, August, 1931. Only the features of practical importance will be accentuated.

I have been impressed for some time that renal tuberculosis is definitely declining in frequency, and that nephrectomies for this disease are less often performed. In order to verify this impression I have analyzed the cases of renal tuberculosis admitted to the Barnes Hospital during several periods; from 1916 to 1921 there were 100 cases of renal tuberculosis, an average of 20 cases a year; from 1921 to 1929 there were 146 cases or 16 a year; during 1930 there were 8 and in 1931 there were 9 cases. Compared to the total hospital admissions for all diseases it bore a ratio of 1 to 304 between 1919-1921 and 1 to 400 in 1927-1929 and 1 to 596 in 1931. It is thus evident there was a 50 per cent reduction between 1916 and 1930, which assumed a definite ratio to the reduction in the death rate of tuberculosis in general. The increase in 1931 parallels the general tuberculosis incidence and death rate and is unquestionably due to the poor living conditions during the past two years.

The proportion of tuberculous kidneys to nontuberculous ones in our clinic is 1 to 5. Destructive conditions resulting from nontuberculous infections have been tremendously reduced through urological expertness, namely; early investigation for the source of pyuria and prompt therapeutic correction with the ureter catheter. In tuberculosis, however, urology can make no such claim since increased efficiency should reveal earlier lesions and with

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our present day therapeutic practices, more frequent surgical operations.

From 1916 to 1921 there were 55 operations for renal tuberculosis and from 1921 to 1931, 60 operations; so that neither the proportionate number of cases of the disease nor the number of operations is as frequent at the present time. The honor for this belongs to general medical proficiency, teaching of hygiene, early diagnosis of pulmonary and other tuberculous lesions and systematic therapeutic care and attention. Sanitarium facilities, heliotherapy, diet, proper herding of cattle, tuberculin testing, milk inspection and pasteurization of milk all have played an important role and have protected against the development of massive general tuberculosis.

Renal tuberculosis was secondary to pulmonary lesions in 41 per cent of the cases of this series; the majority were of a chronic nature and a few were acute in character. In dealing with acute lesions the surgeon has to be particularly careful in the selection of the proper time for surgery and, depending upon the activity of the pulmonary process and the rebelliousness of the urinary disturbance, one must balance accounts and perform or defer operation as is indicated by the gravity of these lesions.

Nephrectomy for tuberculosis is supposed to comprise about 30 per cent of all surgical operations upon the kidney. In this series there have been 115 operations for renal tuberculosis in 617 surgical operations upon the kidney, or 17 per cent. These 115 operations were taken from a series of 263 cases of renal tuberculosis; thus, only 44 per cent were operated upon; the remaining 56 per cent were not, for the following reasons: in some the lesion was bilateral; others were subjects of general massive miliary tuberculosis; quite a number refused operation or were advised against it by their physician who believed that medical care previously enumerated would cure them. This brings for our discussion one of the important problems in renal tuberculosis, namely; the spontaneous healing of the lesion.

While it is perfectly true that certain early tuberculous reactions of the kidney unquestionably heal, and that experimental work on animals has definitely proved this to be the case in these simple affairs, there has never been an authentic report of the healing of a chronic surgical tuberculous lesion of the kidney, which is the lesion commonly met with in our practice. Chronic surgical tuberculosis is a slow, indolent process, usually located in one kidney. The renal lesion is notoriously silent; only 20 per cent of the 263 cases in this series presented any suggestion of renal disease, such as

pain, swelling or tenderness. The lesion progresses, tubercles coalesce, break down and form an abscess cavity or cavities. Nature's response to this activity is the creation of an almost impregnable wall of defense in the composition of scar through which circulatory influences from without are decidedly interfered with and nutrition disturbed; and the healing of such a pathological condition is beyond nature's capacity and bears no similarity to the simple processes and tubercle formations which have been reported as an evidence of healing.

In the meantime, the bladder and ureters are bathed in the infected urine resulting from the lesion, and because of the ability of the bladder to resist infection it is only after a long period of time that symptoms become manifest and then the kidney lesion is often beyond repair. In almost 75 per cent of the patients with renal tuberculosis bladder irritability is the cardinal symptom. In the 263 cases here reported the average duration of the bladder symptoms was almost 3 years, a time sufficiently long to have allowed not only destruction of the kidney but serious invasive lesions of the bladder wall, crippling its function and making invalids of the patients. Since the bladder complaint attracts the patient's attention to his condition and demands medical aid the recognition of its cause is of paramount importance. A cystitis in a young or middle-aged person which is progressive, although showing repeated remissions, and resists the ordinary medications, such as internal remedies and topical applications to the bladder, should immediately create the suspicion of tuberculosis. The average simple cystitis will promptly subside in a week or ten days; if it does not, tuberculosis should always be suspected and early investigation of its source should be attempted. Since the majority of tuberculous lesions in the bladder result from tuberculosis of the kidney it is exceedingly urgent that these patients should be investigated at the earliest possible moment in order to protect them from bilateral involvement which is so apt to follow if the condition is neglected. Thirty-one per cent of my patients showed bilateral renal lesions. This unfortunate condition is created either by a secondary blood stream infection or through regurgitation of the vesical contents up the sound ureter after interference with the ureterovesical valve. I am perfectly aware of the fact that in general miliary tuberculosis there is a tendency for the renal disease to be primarily bilateral. If resistance is low and the tuberculous process massive the patients usually succumb to the generalized infection. In less virulent infec-

tions and in patients with good resistance the superficial tubercles which in all probability involve both kidneys may show a tendency to heal either partially or completely. These superficial lesions bear no relationship to the surgical tuberculosis which we are here considering.

In this series of cases there were 29 auto-nephrectomies, or 10 per cent. The current statistics reveal only about 1 per cent. This condition occasionally simulates a healed lesion because of the apparent quiescence of the disease but in none of them has there been a definite healing process. The vesical lesion is appeased because of renal isolation. I have never seen a case where the bladder has entirely healed, and furthermore, the kidney has always shown activity.

In this series there have been 248 whites and 15 Negroes. There were 6 children under 12 years of age; 61 per cent of the patients were males and 39 per cent females. The preponderance of renal tuberculosis in the white race is striking, since tuberculosis is so frequent in the colored race. This results from the fact that in the Negro, massive tuberculosis is the rule and chronic surgical renal tuberculosis does not result; the same applies to children.

Genital lesions, such as epididymitis, prostatitis and vesiculitis, were found in 71 per cent. Epididymectomy was performed in 18 per cent of the cases. The association of genital and renal tuberculosis is far more frequent than is currently accepted. Vesical symptoms and cystoscopic evidences of tuberculosis of the wall of the bladder rarely occur with genital tuberculosis and are always suggestive of renal involvement.

The diagnosis of renal tuberculosis is a problem of great concern to us. The most important phase depends upon the general practitioner of medicine in recognizing resistant vesical lesions and having them submitted early to thorough cystoscopic study. Except for the few cases of very early lesions without special findings, renal tuberculosis is not a difficult problem to solve. The cystoscope has in my experience positively diagnosed tuberculosis of the bladder in 78 per cent of the patients. The ureter catheter is necessary to determine whether the process is renal, and if renal whether one or both kidneys are involved. Urinalysis is exceedingly important. Pus in the urine in a centrifuged specimen unassociated with bacteria in the ordinary stains in a patient suffering with cystitis is highly suggestive of tuberculosis. Frequently, of course, secondary infection, particularly with colon bacilli, is encountered and at times complicates the picture. In either case a thorough

search for the tubercle bacilli must be undertaken and guinea pig inoculations made. In suggestive cases where the tubercle bacilli are not found and before the guinea pig test has been completed, the clinical test of resistance to ordinary bladder medication or to renal pelvic lavage in case of secondary infection in the kidney makes tuberculosis highly probable, and I cannot stress too strongly the necessity for early investigation in cases of resistant cystitis. Tubercle bacilli are quite difficult of detection in the urine and require diligent and patient searching. The finding of tubercle bacilli in the kidney urine offers definite unqualified evidence of renal tuberculosis and is never indicative of excretion from concomitant lesions. It has been definitely proved that a normal kidney does not filter bacteria and the presence of organisms in the urine indicates a break in the integrity of the kidney's secreting surface.

Other special diagnostic methods such as roentgen ray, urography, both retrograde and intravenous, and functional tests will not be discussed in this paper owing to the lack of time.

With modern urological facilities, the actual diagnosis of renal tuberculosis is possible in almost 100 per cent of the cases. The important thing is to have the medical profession submit their patients presenting symptoms suggestive of tuberculosis for early study and in this way to prevent the hazardous destructive lesions which are likely to occur if it is neglected.

The treatment of renal tuberculosis, if unilateral, is nephrectomy. Statistics definitely reveal that there is no place for medical supervision of a chronic unilateral renal tuberculosis. It may give temporary relief but both the kidney condition and the bladder lesion are likely to progress and promote invalidism of the patient. Since the tendency of tuberculosis of the bladder is to be invasive, interstitial cystitis with its crippling sequelae must be prevented and this can only be done by early nephrectomy. In bilateral tuberculosis the only excuse for surgery is in the case of pyonephrosis of one kidney and the faith that the patient may receive temporary benefit from the relief of toxemia without entertaining hope of arresting the process in its mate. Very rarely, bilateral drainage may be required. I do not believe that the removal of the more diseased of two tuberculous kidneys as an operation of choice is advisable. The cases which have been reported as cured are in all probability mistaken diagnoses and what appeared to be a bilateral renal lesion was a contamination of the other ureter due to backwash from an infected bladder.

Ureterotomy serves an admirable purpose for intractable vesical tuberculosis resulting from bilateral renal disease. It is certainly preferable to renal drainage or suprapubic cystotomy.

Time will not permit a detailed discussion of the technical phases of nephrectomy for tuberculosis. Only a few of the essentials will be depicted. Proper anesthesia, either spinal or gas-oxygen, and proper position of the patient by which easy access to the kidney is obtained, are essential. It is my practice to use the lateral position, elevating the patient to the extreme and using the transverse incision; this gives much better access to the kidney and upper ureters and protects against traumatism through traction and tugging which are decidedly contraindicated in the conduct of the procedure. Delicate handling of tissues, thorough removal of perirenal fat, which is rich in lymphatics, prone to infection and the contributing factor in the persistence of renal sinuses, are essential. The treatment of the ureter varies with different surgeons and you as surgeons are familiar with the many technical procedures. It is my firm belief that one does not need to magnify the importance of the ureter in the course of nephrectomy for tuberculosis. In the 115 nephrectomies which I have performed I have simply ligated the ureter at a convenient location, cauterized it either with the actual cautery or carbolic acid, and allowed it to drop back into the wound. I have seen no untoward results from this simple procedure except that in one instance an empyema of the duct occurred at a later date. For this reason there seems to be no necessity to increase the gravity of the operation for its removal. Like the bladder, it usually heals following the extirpation of the kidney. The ureter is a valuable adjunct in nephrectomy in acting as a tractor and aiding in exposure of the renal pedicle. It has been my custom to drain the majority of tuberculosis wounds. Those which I have closed have opened in 25 per cent. There has been no rib resection in any of these operations and no injury to the pleura.

The average length of time in hospital has been 25 days. This is a little high on account of the long hospitalization of a few of the intractable cases; the majority are discharged within three weeks.

The healing of the bladder and the relief of symptoms after nephrectomy is a subject of extreme interest. Lower states that the relief of symptoms following nephrectomy is usually about as long as the duration of symptoms before operation. It appears to me that no definite rule can be laid down concerning this. It has been my experience that the more active

the bladder lesions and the more acute the symptoms, the more prompt the healing.

The explanation of the rapidity in healing and relief of symptoms of the angry, acute bladder, after the removal of an active tuberculous lesion in the kidney, has been considerably discussed. Keyes feels that it is dependent upon the diminution and the total amount of urine and believes that since the bladder receives only half the amount of urine after the removal of the kidney its quiescence is due to this.

I have seen a fair number of patients of this type who urinated every fifteen minutes day and night and suffered with severe pain and tenesmus, who, twenty-four hours after the removal of the kidney, could hold the urine three hours and pass six ounces of urine instead of one half to one ounce, the bladder at this time being just as studded with ulcers and visible inflammatory reaction as it was previous to the surgery, a condition comparable to the crisis in pneumonia. The patient is a sensitized individual and this result is due to the relief from a tuberculin reaction. During the activity of the process in the kidney the toxic products emanating from the lesion, namely, dead tissue, bacteria, dead and alive, tuberculo-proteins, fats and fatty acids—keep up a constant tuberculin reaction on the raw surface in the bladder wall. Upon removal of the kidney this tuberculin reaction is immediately relieved and the patient's symptoms are promptly ameliorated. This reaction may be reproduced by the injection of tuberculin. Formerly, when I was using tuberculin as an adjunct to the healing of tuberculous lesions, I observed a number of these reactions in bladders which had previously quieted down and noted the subsidence of this response after the tuberculin reaction had passed.

Many of these individuals go on to gradual healing without recrudescence; the majority however pass through flurries of reactions due to the persistence of ulceration and vesical wall infiltration.

The persistence of bladder symptoms after operation may depend upon several factors. The invasive tendency of the disease with its resulting bladder contracture is one of the most important and speaks for the necessity of early nephrectomy. In a few instances contracture of the vesical neck may be responsible; there have been three such cases in this series and two have been relieved by the punch operation. Tuberculosis of the opposite kidney and remaining tuberculosis in the genital tract may retard healing. I have never been enthusiastic over the ureteral stump as the cause of bladder symptoms.

As an aid to the healing of rebellious tuber-

culous cystitis I wish to bring to your attention a method which I have recently employed and which is, as far as I am aware, the first time it has ever been attempted; and while it pertains to a single case the result has been so magical as to warrant my presenting it to you at this time under the title "transurethral application of ultra-violet irradiation and ventilation to the interior of the bladder." Believing so implicitly in the effectiveness of fresh air and sunshine in the cure of tuberculosis in general, I have within the last month with the help of Dr. Ewerhardt of our department of physical therapy, constructed an instrument through which ultraviolet irradiation and outdoor air can be easily and accurately applied to the interior of the bladder. This is done by a cold quartz mercury vapor orificial applicator insulated to protect the urethra and with a channel along the insulating appliance for the induction of air into the bladder by means of an ordinary blood pressure bulb. A young lady from whom I had removed a tuberculous kidney several years ago was constantly tormented with an intense cystitis that had resisted all types of medication, both general and local. There has never been any evidence of tuberculosis in the remaining kidney but bladder ulceration has persisted. For over a year the symptoms have been accentuated by secondary cystitis due to a colon bacillus infection. After months of treatment it was necessary for her to void with pain and burning from 6 to 10 times at night. After four treatments with ultraviolet irradiation and ventilation of the bladder the urine became sterile and has remained so for about a month. I have followed the bladder cystoscopically at repeated intervals and have recently observed a pronounced tendency of the ulcers to heal. The acute reaction from secondary infection promptly subsided and after the fourth application she urinated but once at night, except for several times after extensive irradiation. The bladder irritation has markedly subsided. Investigative work has definitely shown that the ultraviolet rays are specifically germicidal and this case demonstrates it to be a clinical fact. I hope that this will open a new therapeutic field for the treatment of intractable cystitis resulting not only from tuberculosis but possibly from many other causes. Certainly, in this instance it proved to be a most rapid and effective method of eliminating secondary infection, relieving the aggravating symptoms and stimulating the tuberculous lesion to heal.

Statistical analyses from many sources demonstrate conclusively that a comparison of the cases of renal tuberculosis treated by nephrectomy and those treated expectantly indicates the folly of medical treatment.

In this series of cases I have been able to

follow 51.9 per cent of the patients who were operated upon; these were principally private patients. Of these, 77 per cent are well and entirely free of bladder symptoms; 23 per cent have remaining evidences of the disease or have died. In the group of well patients, 79 per cent have passed the five-year period; 44 per cent are living and well after ten years; 35 per cent have lived from eleven to nineteen years after operation. About 10 per cent of the patients in the group not completely well are suffering with symptoms of bladder irritability. Several of these have been followed and the condition found to be due either to contractures of the bladder or to ulceration. They have been greatly relieved by local measures, thus signaling the necessity for proper supervision of these patients after operation.

I believe that if a patient is relieved following operation and remains perfectly well for a year the cure is likely to remain permanent.

The immediate mortality of nephrectomy for tuberculosis in the hands of trained surgeons ranges between 2 and 4 per cent. Wildholz shows 2.4 per cent, Mayo Clinic 2.7 per cent. Numerous operators have reported a considerable series without a death. There have been no deaths in the 115 cases herein reported.

In this series there have been 3 operations on single tuberculous kidneys, the mate having been previously removed. One a nephrostomy for stone, another a pyelotomy for stone, and the other case was a nephrostomy with ureteral ligation for the relief of the intractable bladder symptoms.

SUMMARY

1. Renal tuberculosis is declining in frequency as a result of the improvement in the early diagnosis and treatment of pulmonary and general tuberculosis and the prevention of massive lesions.

2. Early diagnosis in renal tuberculosis is paramount.

3. The cystoscopic picture is most significant.

4. In unilateral renal tuberculosis, nephrectomy should be performed promptly.

5. Surgery in bilateral renal tuberculosis is indicated only in cases of emergency to relieve toxemia from pyonephrosis or to correct intractable vesical lesions.

6. The immediate relief of symptoms in many of the cases after nephrectomy is due to the removal of a tuberculin reaction created by the products of bacteria, dead and alive, tuberculoproteins, fats and fatty acids.

7. Ofttimes, the more acute the lesion in the bladder the more quickly the healing and relief of symptoms following the removal of the diseased kidney.

8. The chance of healing in chronic renal

surgical tuberculosis is remote and not comparable to the simple early experimental lesions.

9. The mortality of nephrectomy is exceedingly low.

10. The relief of bladder symptoms may be expected in at least 75 per cent of the cases of unilateral renal disease instead of an almost positive assignment to invalidism if left to medical care.

11. Ultraviolet irradiation and ventilation to the interior of the bladder and in the healing of tuberculous cystitis.

725 University Club Building.

TUMORS OF THE KIDNEY *

C. E. BURFORD, M.D.

ST. LOUIS

For the purpose of this symposium kidney cysts will be included with tumors. The solitary or retention cyst is rare and always unilateral. Its etiology is supposed to be inflammation causing retention in tubules, but little is definitely known concerning the cause. Harpster, Brown and Delcher¹ report two cases and review ninety-three cases from the literature.

The diagnosis is rarely made before exploration because the cyst feels hard like a tumor, but instead of nephrectomy the cyst can be removed and the kidney saved.

The multiple small cysts encountered on the surface of kidneys resulting from diffuse nephritis are of no consequence. The polycystic kidney supposedly of congenital origin is of greatest interest because it is practically always bilateral, progressive, may occur at any age, is frequently large enough in the fetus to interfere with birth, grows to enormous size and is eventually always fatal.

No treatment is effective in staying the progress of the disease but, as frequently happens if the kidney is explored on a diagnosis of tumor, cutting away the tops of these cysts relieves the pressure in the kidney and prolongs its function.

Our experience consists of five cases. Two died after kidneys had reached enormous size, one shortly after being seen, the other seven years after the diagnosis was made. The other three are living after 2, 4 and 6 years. One of these cases was explored for possible tumor and polycystic kidney found. Probably 100 cysts were incised or partially excised. They ranged in size from a garden pea to a goose egg. This patient has been relieved of pain

and has been in general good health now for 6 years, showing clear urine with a trace of albumin.

Nephrectomy is contraindicated except when complicated by infection which may make removal imperative.

Renal dermoid cyst is extremely rare and need only be mentioned. Echinococcus cyst of the kidney is quite rare in this climate but more common in Australia and in tropical grazing countries. We have had the good fortune to encounter one case in an Italian fruit dealer who had been operated on two years previously for echinococcus cyst of the liver and came to us with a tremendous tumor of the right kidney, filling most of the abdomen. The exact diagnosis was made at operation when nephrectomy was done which was followed by recovery. This case was presented one year later before the St. Louis Medical Society.

Kidney tumors proper are divided into benign and malignant growths. The small adenomatous growths occurring just under the capsule are benign and require no attention. The papillomata of the pelvis which extend down the ureter and into the bladder by cell implantation along the mucosa are frequently benign microscopically and have little tendency to invade the deeper structures at first, but they do finally become malignant and require nephrectomy with complete ureterectomy and the removal of the involved portion of the bladder for a cure.

We have operated on three cases of papillomata of the pelvis, making the diagnosis by hematuria and the filling defect in the pyelogram. By far the more common and most important are the malignant tumors of the kidney. Hypernephroma or nephroma, as described by Grawitz,² so named because it was thought to spring from adrenal cells implanted in the fetal kidney, is the most common tumor found in the adult kidney. Stoerk and others have pointed out however that this tumor occurs as frequently in the lower pole of the kidney away from the adrenal gland as in any other portion and believe they spring from the undifferentiated fetal cells included in the kidney tissue.

These tumors grow slowly, destroy the kidney by compression but do not transgress the capsule for a long time. They invade the pelvis, the renal vein and enter the vena cava in the later stages. We did a nephrectomy on one case five years after the diagnosis was made and there had been no return eight years after operation. A few of these kidneys we have removed for nephroma had attained great size without rupture of the capsule or invasion of the surrounding tissue, and there has been

* Read in the Symposium on Diseases of the Kidney at the 75th Annual Meeting of the Missouri State Medical Association, Jefferson City, May 23-26, 1932.

no return or metastases in ten years. This certainly justifies one in attempting to remove the growth even though it has attained large proportions when first seen.

Contrary to these results, we have seen one patient from whom had been removed a tumor involving the intercostal muscles and a portion of the twelfth rib which was diagnosed microscopically as hypernephroma. This tumor was not connected with the kidney, nor were there any symptoms of kidney neoplasm until two years later when a hematuria led to cystoscopy and the diagnosis of a large hypernephroma of the kidney on the same side of the original tumor.

Hematuria is almost universally the first indication of the presence of hypernephroma and is intermittent in character. The intervals between hemorrhages may be months or years at first, but become shorter as the bleeding becomes more extensive. It is almost always unilateral and cystoscopy and pyelograms will show unilateral hematuria, diminished function, filling defects and distortion or obliteration of some or all of the calyces. Intravenous urography is of value only in cases which do not yield to direct pyelography.

In many instances the tumor can be palpated with one hand in the lumbar fossa and the other over the abdomen close under the border of the ribs. The mass can be felt to rise and fall with deep respiration. As a rule, it is not very tender.

Primary carcinoma of the kidney is much more rare and may be of the papillary type originating in the pelvis, or adenocarcinoma originating in the kidney substance. The growth is relatively slow and the bleeding is prone to be more constant and smaller in quantity than in nephroma. These tumors, as do nephromata, tend to metastasize late, the lungs and the glands on the left side of the neck being the two sites of predilection.

We have operated on four cases of primary carcinoma of the kidney ranging in size from a small lemon to a tumor filling half the abdominal cavity. All made immediate recovery but died later of metastases.

Adenosarcoma of the kidney is a disease largely of infancy and early childhood. It is known as Wilms tumor, since he published his monograph on mixed tumors of the kidney in 1899. Birch-Hirschfeld³ first applied the term embryonal adenosarcoma. Dean and Pack⁴ have exhausted the literature and reported 16 cases from Memorial Hospital, all but one under ten years of age. Only 10 cases were reported at the Mayo Clinic in ten years between 1918 and 1928. These tumors are

very rapid in their growth and metastasize early. We had two of these in small children aged 4½ years and one in a man of 70 (?) years. In the case of one child, the tumor was the size of a quart cup but had not ruptured the kidney capsule. Following nephrectomy, Coley's toxins were used but in six months metastatic involvement of liver was apparent and death occurred some two months later.

In the case of the other child, the son of a physician, two very extensive hemorrhages had occurred within four days and nephrectomy was done in emergency. Half the right kidney was involved in the sarcomatous mass but the capsule of kidney was intact. There had been no recurrence in 1½ years when this patient died of diphtheria in another city.

The sarcoma of left kidney in the man of 70 was most unusual on account of the age but it followed the usual rapid development. When I first saw him he had known of the mass in his side for only a few weeks; it was then the size of a gallon measure and in two weeks when he had decided to enter the hospital it had doubled in size. Complete removal was manifestly impossible as it was no longer freely movable, but in order to relieve abdominal tension a posterior incision was made going directly through the capsule of the tumor and finding the contents of a friable almost mushy consistency, most of the mass was scooped out with the hands without much hemorrhage. This tumor was then subjected to deep roentgen ray therapy which seemed to have a deterring influence for several weeks after which it again grew to large proportions before death.

The conclusions we wish to make are:

1. That the earliest symptom of most kidney tumors is hematuria and all cases of blood in the urine should be investigated until the cause is determined; this usually means a cystoscopic examination.
2. Early diagnosis is the best method of reducing the mortality rate.
3. An attempt at removal of the very large kidney tumors is good surgery, for metastasis is slow and the kidney capsule holds the tumor for a long time before it ruptures.

958 Arcade Building.

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CALCULUS PYONEPHROSIS *

R. LEE HOFFMANN, M.D.

KANSAS CITY, MO.

This title is merely suggestive of the combined presence of stones in the kidney which is infected. Naturally, one must speculate in such cases as to whether the calculus formation is primary and causing the renal destruction or is a manifestation resultant from infection in which the abnormal deposits of urinary salts have produced the calculi with which we are all familiar.

The examination of the literature with its voluminous reports of the many types of calculi leaves one in doubt as to the physiological processes responsible for their presence. Chemically, we have ascertained that calculi are composed primarily of a definite salt, but this original or primary formation may have been covered by an additional or secondary deposit of one or more urinary salts which change the contour as well as the outward aspects, and from this appearance we are prone to make our diagnosis as to type. However, only by a careful chemical analysis of the various types and additional deposits can the primary deposit be determined. We shall merely mention these types, subdivided grossly into two groups as to their appearance radiographically:

1. Those which, if of sufficient size, give a positive shadow when radiographed through the body tissue. In this group we find uric acid, ammonium urate, phosphate, calcium oxalate, and calcium carbonate types.

2. Those which cast only a negative shadow; these stones are composed of cystein, xanthin or cholesterin. The cystein stones of this group are the most common and are only found in patients with a cystein uria, which is a familial disease. We should include the so-called "albumin stones" and fibroid types of the urinary bladder.

The types of stones are primarily determined by the reaction of the urine; urates and oxalates may occur in either acid or alkaline urine, the phosphates and carbonates occur only in an alkaline reaction.

The acid urine with either an oxalate or urate stone may, due to infection, become an alkaline urine and then the additional deposits to the stone will be phosphatic or carbonate.

THEORIES

Physiochemists have advanced a colloidal theory. In its discussion one must consider the

colloidal suspension crystalloids in which case the substance is not inherent in the urine but influenced by extraneous causes, whereas the true colloids always exist in fluids in a state of colloidal dispersion. It was found by investigators that these urinary components are present in urine in colloidal dispersion. Also, that in a relatively clear specimen of urine they often find more of the urinary salts, such as the urates, than can be redissolved in the same quantity of water. This also explains why a urine supersaturated with salts does not react according to the same laws which govern supersaturated watery solutions by precipitation. As can be proved in an aqueous solution of urates, they are precipitated by acid additions, whereas the colloidal suspension of urates is most stable under acid reactions, which is the condition encountered in normal urines.

The next noteworthy point in the consideration of such a hypothesis lies in the observation that the accumulation of such particles is greater where the surface tension has been increased. As the surface tension between urine and the normal urinary mucosa is zero we can understand the greater prevalence of their deposits when in contact with steel, glass, rubber or other foreign bodies which cause an increase in surface tension; whereas clear paraffin, which causes no change in surface tension, does not encourage such deposits or stone formation. The role of infection in the primary deposit is not proved, as in most foreign bodies infection is introduced with this body, or occurs soon afterwards, and all foreign bodies which are in the urinary tract do cause this accumulation of urinary salts, while we are all very familiar with badly infected urines which have continued over long periods of time and never have produced any tendency to stone formation.

In contradistinction to this, Rosenow has presented his investigation in which he produced experimentally in animals, stones in the urinary tract by recovering this infective agent from stones and urine removed from the patient with calculus pyonephrosis and its reinjection into the teeth in animals which subsequently have a similar calculus formation in the urinary tract.

In so far as each hypothesis has its undoubted merits why not combine their applicability to these conditions as they confront us. We have seen the beneficial result in cases of calculus pyonephrosis when all foci of infection have been eliminated prior to the surgical removal of such calculi by the low percentage of calculus recurrences, but we have not been able faithfully and conscientiously to promise

* Read in the Symposium on Diseases of the Kidney at the 75th Annual Meeting of the Missouri State Medical Association, Jefferson City, May 23-26, 1932.

that there would be no such recurrences of calculi. The exponents of the colloidal dispersion theory state that, theoretically, if stones form due to the agglutination of colloidal particles, the reversible action should make them resolvable and that when the urine is so diluted as to cause it to become unsaturated, these substances should be slowly dissolved and the calculi be disintegrated. This process has been proved outside of the human body by dissolving the matrix and then the crystalloid constituents, losing their coherence, are reducible to a fine sediment. There are also those cases, probably questionable, of a spontaneous fracture of the urinary stones, and also where there has been a disintegration following ureteral manipulation and medication. Examples of this method are on record; Klemperer reports that cystein stones were made resolvable after ingestion of large amounts of bicarbonate of soda. Crowell reports a similar result with a cystein bladder stone.

Should this method prove applicable to all types of urinary calculi then the treatment would soon become a routine medical problem and we would have a prophylactic against such occurrences by Rosenow's efforts, and a solution that would be nonsurgical for the removal of calculi from the urinary tract; but until such details have been mastered by research and investigation we must continue in our efforts to conserve this vital renal function.

Probably most of the stones in the urinary tract arising independent of foreign bodies and incrustation in the mucosa from suture material ends as well as on healing ulcerations, find their origin in renal calyces and pelvis. Naturally, then, unless there are congenital defects or acquired abnormalities which are responsible for urinary stasis, these calculi, which must start as very small concretions and necessarily increase gradually through a slow process of deposit or assimilation, should be eliminated through the urinary system without pain or recognition by the patient, as normally the entire urinary output is being constantly evacuated into its common reservoir, the urinary bladder. A retention of urine in the kidney, pelvis or ureter will also arrest the transit of such calculi, and aided by urine stagnation allow a rapid increase in the deposit of urinary salts with a constant increase in the size and contour of the calculi.

In review, let us consider first the anomalies with a resultant stagnation, such as are due to a change of position. This ectopia may be acquired in cases where the nephroptosis is due to the increased size and weight of the organ resultant from large cysts, renal neoplasms, massive hydronephrosis or to faulty attach-

ments. Here a ureterogram shows the typical elongation type of ureter with its undulating curvature as a result of its descent, whereas in the congenital type of ectopia the involved kidney has been interrupted in its normal ascent and never reaches its normal level thus causing a shorter ureter as compared with the normal through lack of proper development. The malformations as well as the anomalies may show a simple dystopia in which the organs are present, with or without fusion but each occupying its relative side of the body; or a crossed dystopia in which the two organs lie on the same side of the body, with the ureter of the ectopic kidney crossing the midline to terminate in the bladder in its normal relation and the kidney presenting itself lower than its normal co-worker.

Next, the malformations causing a stagnation of urine are responsible either for infection or a calculus formation.

(a.) Such renal structures as the horseshoe kidney with the upper or lower poles fused; or the sigmoid type in which the lower pole of one fuses to the upper pole of the opposite.

(b.) Double pelvis in a normal cortex and double pelvis in a double though fused kidney.

(c.) Double ureter in a single pelvis and double ureter with a double pelvis, in which cases we should remember the embryologic reason for the lower ureteral orifice always draining the upper renal pelvis, the inferior ureter being placed lower on the wolffian ducts and in the absorption of this wolffian duct reaches the vesico-urethral anlage first and begins its ascent and lateral shifting, while the superior segment is still attached to the wolffian body and later reaches the vesico-urethral anlage to begin its ascent but never reaches a level as high as the first or inferior segment, thus forcing the inferior segment to cross the ureter from the upper pelvis to implant itself in the bladder wall. Occasionally, this ureter from the superior pole of the kidney never reaches the bladder but remains attached to the wolffian body and consequently empties into the urethra. The question of a bifid ureter must also be considered; in this case a single ureteric orifice on the affected side gives no intimation of a double kidney or pelvis. A pyelogram revealing an abnormally small pelvis for the size of renal structures should suggest to the urologist the advisability of withdrawal of the catheter into the lower ureter before injecting the opaque media.

(d.) Congenital ureteral deformities, such as a ureteral valve causing a partial hydro-ureter, and a congenital vesico-ureteral valve failure to produce the megalo-ureter described by Caulk in his excellent work on urology in children.

(e.) Ureteral neoplasms obstructing the lumen, aberrant blood vessels crossing the pelvis and extrarenal pressure which may be applied also to pelvis and ureter.

Last although least apt to occur are the group causing a renal stasis from such causes as surgical ureteral stricture following improper ureterotomy where a transverse rather than a longitudinal incision was made. Stric-

ture following an ulcerative ureteritis and inflammatory stricture following salpingitis; and seminal vesiculitis as well as surgical partial obliteration following pelvic surgery and improper technic on nephropexies.

Braasch in discussing recurring renal lithiasis quotes a review of postoperative results following 1000 cases of nephrolithiasis, and says a recurrence was present in 10 per cent of the series and on these recurrent cases treated surgically there was another occurrence of stone in 2 per cent, deducting therefrom that stone recurrence is not common unless etiological factors are present other than those causing the usual single stone.

1019 Professional Building.

SOME OBSERVATIONS ON NEPHRITIS *

DAN G. STINE, M.D.

COLUMBIA, MO.

One of the difficulties in speaking on nephritis is nomenclature and classification. Dr. Richard Bright, of London, in his original paper from Guy's Hospital, read more than one hundred years ago, very sensibly described a disease entity with a classification of only two divisions: the wet type of the disease and the dry type. Clinically this is a very excellent classification and is used today by one of our foremost writers on nephritis.

Unluckily, due to the overwhelming influence of Virchow, this disease has been called a nephritis and its classification has been based upon the morbid anatomy of the kidney. Looking to the pathological examination of the kidney for an explanation of the clinical pictures of Bright's disease has been most confusing. The clinician, in attempting to interpret symptoms in terms of renal change, has followed his patient to the autopsy room only to be presented by the pathologist with a kidney showing an anatomical picture far different from that which he predicted.

Attempts have been made to explain this discrepancy between the physical disturbances within the body which are called nephritis and the unexpected morbid picture found in the kidney, by showing that the kidney has selective activities and that there may be isolated injuries to individual functions of the kidney. Even this does not offer an easily understandable explanation of all the varying pictures that are classified under nephritis.

To my mind, in evaluating symptoms in a

case of Bright's disease, one has to determine just what bodily changes are due to renal damage and just what bodily changes are due to extrarenal disorders.

Life originated in the brackish water of the early seas and in its primitive existence depended upon the chemical constituents of this weakly brackish water for its maintenance. With the development of the organism the complex vertebrate form was evolved. The cells became far removed from the sea water that had bathed them and a body fluid, physically and chemically comparable to sea water, had to be evolved, that is, the blood plasma.

Now, it is one thing to evolve a fluid chemically and physically like sea water to bathe the cells and maintain them in their primitive condition, but it is another thing to retain that blood plasma at a constant chemical and physical level because the cells are utilizing the chemical constituents of the fluid and throwing their waste products into it. So, with the evolution of the vertebrate form, the kidney was evolved. Its primitive function was designed to maintain a certain level of inorganic salts of magnesium, sodium, calcium, potassium, sulphur, etc., in the blood plasma so that it would resemble sea water. It had the power to eliminate any excess of these inorganic salts and maintain them at a certain level.

Now, the primitive function of the kidney can be disturbed by (1) inorganic salts taken into the body in such amounts that the kidney has difficulty in eliminating them, or they can be taken into the body in such small amounts that the kidney has difficulty in keeping their concentration up to a proper level; (2) the cells, which are still primitive in their appetites and needs although they have undergone a remarkable differentiation, can become abnormal and fix within themselves abnormal amounts of one or more of these inorganic salts so that they do not reach the kidney for elimination; or they can release an abnormal amount of one or more of these salts, any one of which will produce an abnormal relation of the fluid of the body with the tissues; (3) the kidney may be so damaged that it cannot perform its function of elimination or concentration.

Any one of these three factors can disturb this primitive function of the kidney. However, the kidney is designed so that it has a tremendous reserve power and has to be tremendously damaged by a disease process before the last of these primitive functions will be impaired.

It is true that the kidney probably has selective action in that it can take up the concentration of an individual salt or organic com-

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pound. I think this is probably over-emphasized by many investigators.

There is one difference between blood plasma and the saline solution that bathed the primitive cell, and that is the protein content of the body fluid. This is also maintained at a constant level in health and any alteration of it embarrasses the cell.

Cells from the vertebrate organism, when grown in culture media composed of proper solutions of sodium, potassium, calcium and magnesium salts but containing no proteid, become more permeable, become vacuolated and lose their vitality. Such tissue cultures die out speedily. The addition to this culture media of proteid, such as embryo extract or broth made from muscle tissue, has a remarkable revivifying effect on such cultures of cells. The vacuoles disappear, the permeability changes, growth and reproduction proceed.

Not only do the above degenerative changes appear in the cell with the reduction of proteid in the culture media, but calcium and magnesium enter and become fixed in the cell and sodium chloride and potassium leave the cell. That is, in the complex vertebrate organism, if the proteid content of the body fluid is lowered, calcium and magnesium are taken up by the cell and sodium chloride and potassium leave the cell, so that the fluid surrounding the cell becomes poor in calcium and rich in sodium chloride and as a result water is held fixed in body tissue as a diluent. This has been proven experimentally by Christian and his co-workers who, by repeated removal of blood from a lower animal, separating the blood plasma and reinjecting the red cells thereby diminishing the proteid content of the blood without the production of anemia, found that this resulted in edema.

After the vertebrate organism and the kidney were evolved to take care of the inorganic salts of the plasma, it was necessary for the kidney to perform another function. Salt water was not only necessary for the life of the cell, after the vertebrate organism and the kidney were evolved, but it was the medium in which it discharged its waste products, so the kidney took over the function of eliminating the nitrogenous waste of the body. This we can call its acquired function in contrast to the primitive function that has been previously described. It does this by simply attempting to eliminate all the nitrogenous waste that is brought to it. There is no level of the nitrogenous compounds that it seeks to maintain. They are harmful to the body and it is the kidney's duty to eliminate them. Its ability to do this depends upon the amount of waste there is

to be eliminated and the intactness of the kidney's function to handle these compounds.

If enough kidney function is destroyed, its ability to eliminate these compounds becomes impaired and the health of the organism suffers. If we would remove the kidney or tie off the ureters of an individual, he would not become edematous from the retention of the inorganic salts, but the retention of his nitrogenous compounds would produce weakness, anorexia, coma and death. During this period there would be a mounting level of nonprotein nitrogen in the blood stream. We have seen this happen in kidney failure often enough to know what the fatal concentration of nonprotein nitrogen is.

In summing this up, we may say that the kidney has the primitive function of keeping the organic salts of the body fluid at a constant level, and that a lowering of the proteid content of this body fluid will produce an extrarenal disturbance of this function resulting in edema and mechanical death. In addition to this, the kidney has the acquired function of eliminating the nitrogenous waste products of the body the retention of which will result in coma and toxic death. I will attempt to explain the relation of these two functions to Bright's disease.

Theoretically, all glomerulonephritis goes through three stages—the acute, the subacute and then the chronic, although often in chronic nephritis we do not obtain a history of the acute or the subacute stage. This discrepancy we often see in medicine; for instance, the tremendous scarring of the cardiac valves without the history of preceding attacks of endocarditis.

In the acute stage, we find the kidney much enlarged, the capsule quite tense and, when the capsule is stripped, the surface of the kidney is smooth with small hemorrhagic areas scattered over it. The urine shows evidence of a more or less intense inflammation being very concentrated, bloody and containing many casts and much albumin. There is a disturbance of both the primitive and acquired functions of the kidney, the level of inorganic salts mounting and nonprotein nitrogen being retained so that there is a tendency to both edema and toxicity.

If the acute stage of nephritis is properly treated and the kidney is rested as much as possible complete recovery should be the rule. Unfortunately, many of these cases are never recognized while in others insufficient care is given with the result that the process enters upon its subacute stage. This is the stage of degeneration and proliferation. Degeneration

affects the parenchyma and the epithelial cells, and it is the accumulation of fatty substance in these cells that gives us the so-called large, white kidney that is characteristic of this stage. The capsule strips easily leaving a surface that is pale and smooth. Large amounts of albumin appear in the urine. Due to this and probably other causes, the proteid content of the body fluid is diminished. With this diminution the cells, just as we described in the tissue cultures, become enlarged, vacuolated and permeable. This applies to the cells of the tubules of the kidney as well as to other cells, so that in the subacute stage of glomerulonephritis, we have the picture of tubular degeneration.

With the disturbance of the cell comes the shift in the salt content of the cell and the production of edema. This gives us a striking picture: A patient who is pale and edematous, with a low blood pressure (where in the acute stage it has been high), heart of normal size and basal metabolism low, probably due to excess body weight from retained water. The nonprotein nitrogen compounds in his blood have dropped to normal. The phenolsulphonephthalein test has become normal. The sodium chloride in his circulating blood is high and in his urine is usually low. His blood and urine calcium is very low, being fixed in the tissue cells. The albumin and globulin ratio is usually reversed. Tremendous amounts of albumin appear in the urine but casts are relatively few. That is, we have the clinical picture of so-called nephroses.

In the second stage of Bright's disease we have a disturbance of the primitive function of the kidney alone. Death may result mechanically from the edema or from the lowered resistance of the body to infection.

This stage may pass, the patient survive and the third or chronic stage ensue. Here the blood pressure rises, the left ventricle of the heart enlarges and the nonprotein nitrogen of the blood gradually and slowly increases. The phenolsulphonephthalein output diminishes, the albumin and globulin ratio becomes normal and the edema disappears. The urine, normal in quantity, which has been heavily loaded with albumin and has contained few or many casts, changes markedly. Albumin may be occasionally present in moderate amounts, often is absent or appears only as a trace. Casts are present but not in great numbers. The number of red cells, if any are present, points to the amount of inflammatory activity remaining.

A remarkable circumstance that can develop in this third stage is a sudden shift back into the second, the subacute or nephrotic stage. The patient, if exposed to cold or having an

attack of tonsillitis, will suddenly lose all the physical and laboratory symptoms of the third stage and develop those of the second stage, only later to revert back to the chronic stage. Some individuals will continue this shifting picture over years of time. In each interval between subacute pictures the chronic stage becomes more pronounced.

Death in the chronic stage is a toxic death either from retention of nonprotein nitrogen compounds due to anuria, or to the development of that unknown toxin that produces uremia. That is, provided the patient does not die a cardiac or vascular death before these happen.

If we keep in mind the primitive and acquired functions of the kidney, our treatment will be greatly simplified. In the first stage, rest and warmth to promote the secretory activities of the skin with the restriction of salt and proteid. In the second stage, continued rest, but the activity of the skin does not need to be provoked. The intake of salt should be restricted. The proteid intake should be increased above the average amount, because when body fluids regain their normal content of proteid the symptoms of this second stage will disappear. Great care should be exercised in the administration of mercurial diuretics to relieve the edema of this stage, for I have known anuria and death to follow the administration of minimal amounts of these substances.

A keen outlook should be maintained for the onset of the third stage. This is heralded by an increased volume of the urine, a lowering of its specific gravity and an increase in the volume of the nocturnal output; later, by a rising blood pressure, an increase in the size of the left ventricle and still later by an increase in the amount of nonprotein nitrogen in the blood and an impairment of the ability of the kidney to excrete dyes. Now we shall have to restrict our proteids because here we have the acquired function of the kidney impaired. There is no need to restrict the salt intake as the primitive function of the kidney is not disturbed during this stage, except during periods of relapse into the second stage which are seen early in the development of the third stage. Even then, the amount of nonprotein nitrogen in the blood should be watched. Protection against cold and infection is necessary. The skin should be activated to carry its full excretory load.

I have tried to give you a picture of the body changes in nephritis without reference to any classification more than that given by Richard Bright himself, who classified them all as wet

or dry types of the disease. If a more elaborate classification is needed one might classify nephritis as, first, stage of inflammation; second, stage of proteid loss and water retention, and third, stage of nitrogen retention.

I believe that this simplified interpretation, based upon physiological effects rather than pathological lesions, aids us greatly in our treatment of the various manifestations of the disease.

OBSTRUCTED LABOR *

FRED VAN EMAN, M.D.

KANSAS CITY, MO.

In the consideration of obstructed labor we will not deal with those cases in which a prenatal examination has revealed some condition, such as contracted or deformed pelvis, a low abdominal or pelvic tumor, atresia of vaginal outlet or other conditions, any one or more of which would be a positive indication for an elective abdominal delivery. Nor will we consider those cases in which one of the conditions mentioned exists to such a degree that a thorough test of labor is considered advisable before resorting to radical measures.

In our discussion we will consider those cases which have been given the usual prenatal attention, a thorough physical examination and have at this time or at any time during gestation shown no evidence of being unable to go through a normal labor or if not a spontaneous labor with at least only a little help from the attending physician.

In order to present the matter in a fairly clear and well organized manner we will consider obstructed labor from three angles, first the patient, second the passage and third the passenger, after in a way the plan of Dr. DeLee.

The Patient.—When nature has revealed more of her secrets to us and when we know definitely the cause of labor and what regulates, controls and modifies this function, and when we know more about the great endocrine system, we will undoubtedly understand better the vagaries which we meet in the lying-in-patient. We will understand why it is that one woman will enter labor and complete the process in an hours time, in multiparae often less than an hour, while others require many hours and sometimes days even with normal presentation and position. But it may be accepted as a good working rule that when a woman does not complete labor in the usual prescribed time

either for primiparae or multiparae there is a definite reason for it and that reason is most frequently a malposition.

There are, however, certain cases which are able to go so far and no farther; the uterus tires and ceases to function even before the time when voluntary efforts can assist and this inertia gives us a really obstructed labor. If such a condition arises after complete cervical dilatation has occurred and the head is well down in the pelvis, the remedy is not so difficult to find. A midplane, possibly a low forceps delivery if the occiput is anterior or an anterior correction if otherwise, and then the forceps. If the correction to anterior is difficult or impossible, a podalic version and extraction will usually solve the problem and for the success of this procedure we must insist that the cervix be completely dilated or easily dilatable, otherwise much injury to the mother often results and often also there is much trouble with the after-coming head; indeed, the baby may be easily lost at this point. Ideally, a version should be performed before rupture of the membranes and escape of the water but unfortunately this is not always possible for frequently the membranes have ruptured early in labor or even before labor has started. The longer the time between the escape of the waters and the podalic version the greater the difficulty in the version.

Preceding the delivery, either by forceps or version with an episiotomy, median or medio-lateral, is a rather personal matter, but in primiparae and in multiparae who have been previously torn and well repaired, we feel that an episiotomy of sufficient extent is by far the best procedure.

When pituitary extract was first given us all we knew was what we were told and what we read, i. e., that it was a powerful stimulant of uterine contractions and that it would allow us to finish up our cases and go on our way in quick time. Later we began to learn that we were dealing with a two-edged sword and when we began to get reports from here and there of ruptured uteri following its use we became more and more conservative in the use of this agent until today many men say that this drug has no place in labor until the uterus has been emptied entirely of all its contents. As in many other things, the pendulum has probably swung too far. There is, in some cases of labor, a place for pituitary extract even before the uterus is entirely emptied.

In a case of obstructed labor, or I might say "stalled" labor, such as we are now discussing, with the head on or very close to the perineum, with a normal position, a pelvis of normal

* Read at Trinity Hospital Clinic During Fall Conference of the Kansas City Southwest Clinical Association, 1931.

size and a baby of apparently normal proportions, a small dose of pituitary extract may easily come into competition with a low forceps and solve the problem for us. It has done so more than once; however, with the head higher up, in or above the midplane, we cannot always be absolutely certain just what we have and under these conditions the use of pituitary extract is unwise.

There is another type of case which we occasionally encounter. This patient, most frequently a primipara, passes through her pregnancy with no particular difficulty; in fact has been perfectly well throughout, has a normal pelvis and as she approaches term there is no evidence that she is developing a baby which will be over-sized for her. There is, however, no preliminary engagement of the head at the 36th or 38th week or later although the fetus may be in normal position. She enters labor at or about term with an unengaged head and in spite of vigorous contractions for 24 to 36 hours the head still remains high and the cervix 4 cm. or less in diameter with the edges still thick. In spite of periods of hypodermic rest the patient begins to show marked evidence of exhaustion. A Vorhees bag only increases the suffering and exhaustion and frequently fails. A manual dilatation means much cervical injury and a high forceps on a head floating above the pelvic brim is no longer considered good obstetrics. A version means much maternal injury and under such conditions most frequently the loss of the baby.

No vaginal examinations having been made or at least only one, the fetal heart being good in such a case, a cesarean section offers the mother the best chance for a living baby and with far less injury to her than would a delivery made through the natural channel.

We will not discuss uterine tetany but next consider a condition, somewhat related to tetany, which we feel occurs rather more frequently than suspected and which no doubt often delays labor and in certain cases brings it to an arrest, at least as far as progress is concerned, and if unrelieved may cause a real disaster. We refer to a spasm of the contraction ring, or Braune's ring, more commonly called Bandl's ring. In order to understand just what happens in this condition we must know something of the lower uterine segment.

As pregnancy advances the anatomical divisions of the uterus, viz., body and cervix, change gradually; that part above the insertion of the tubes becomes the fundus, that part above the internal os enlarges and at term the cervix no longer makes up the one third of the entire organ, being almost a nubbin.

During the latter part of pregnancy a new division of the uterus is formed, the lower uterine segment. Just how and whether from the uterine body or from the cervix is still an unsettled question.

Dr. DeLee tells us that the many low cervical cesarean sections done by them have enabled them to study the lower uterine segment better than ever before and that extending upward from the internal os for about 8 cm. ($3\frac{1}{8}$ inches) the uterine wall is thin, the outer layer whiter and fibrous and the overlying peritoneum loosely adherent. The upper boundary of the segment is marked by three signs: first, the peritoneum becomes firmly attached to the underlying muscle; second, there is a large transverse sinus at this point, and, third, the muscle here becomes suddenly thicker, forming a sort of ridge or ring. He furthermore says that this ring is demonstrable during pregnancy and becomes more marked during labor. This is called Braune's ring, also Bandl's ring. It is also called the contraction ring because it marks the lower limit of the contracting or motor portion of the uterus. The region between this ring and the internal os forms the lower uterine segment. (This is not exactly a verbatim quotation from DeLee's last edition of "Obstetrics" but we have given practically the substance of the matter pertaining to Bandl's ring.)

It will be an easy matter now to understand how a spasmodic contraction or a spasm of this contraction ring could obstruct labor in a very serious manner, thus giving us what is called an hour-glass contraction, and upon investigation we may find the baby's head below the ring while the body is above. In breech cases some other part of the fetal body may be caught in the spasmodic ring.

Just why this condition arises we are unable to say, but that it does occur occasionally we are very certain because we have demonstrated it by our examinations. While it happens in normal positions of the occiput, we are of the opinion that it occurs most frequently in posterior positions and in cases of premature rupture of the membranes or at least rupture very early in labor. A neurasthenic type of patient may be more susceptible to this complication although this element has not been particularly noticeable in our experience.

Obviously, fetal mortality must be increased in these cases; indeed one local obstetrician several years ago reported six cases of Bandl's ring spasm in which five babies were lost.

Maternal mortality and morbidity are also increased to some degree owing to the active manipulations usually required for completion of the delivery.

How are we to know when this condition confronts us? No doubt some may be able to make the diagnosis by abdominal palpation but most of us will not. However, when a case which has entered labor with apparently normal presentation and position, with baby of average size, with premature rupture of the membrane or at least an early rupture, with labor progressing slowly though contractions are quite vigorous who, at the end of eighteen or twenty-four hours, has a cervix that has attained only about 50 per cent dilatation or less, the head being still high; where progress ceases at this point and no further advance of the head occurs hour after hour, we may suspect one of two conditions, or both: first, that we have been mistaken in our diagnosis of position and that we have a posterior which will not rotate; or, second, that we have something obstructing labor and we should think of a Bandl ring spasm. Investigation may show that we have both conditions to deal with. The patient's general condition by this time shows the effects of her siege; distressed face, more or less rapid pulse and the marked discouragement of every woman who realizes that in spite of efforts, time and suffering, she is getting nowhere.

Our next step is to prepare the patient for delivery. She has already had all the morphine, scopolamine, atropine or hyoscine and perhaps bromides that we feel safe in giving. She is now deeply anesthetized to secure complete relaxation, the perineum is ironed out, especially in primiparae, and the whole hand is inserted into the vagina. The location of the fontanelles and the direction of the lobe of the posterior ear will verify or change our diagnosis of position. The cervix will practically always be found soft and dilatable and, of course, our first effort will be to complete the dilatation as near as possible. Now, passing the hand along the side of the baby's head and into the lower part of the uterus we will find the obstructing ring if present and it may be encircling the baby's neck. Since conditions are such that allowing the patient to come out of the anesthetic and wait will not improve matters but tend to exaggerate them, we are compelled to complete the delivery.

Obviously, a version is not practical though we have occasionally succeeded by changing the fetal poles. In one case, we were rewarded by firm lateral pressure of the hand on one side of the ring and felt it give way, then with a nurse making firm pressure downward on the fundus, forceps were quickly applied and a delivery made. This is one way out of our difficulty. Again, if the occiput lies anterior forceps may be applied and with slow steady

but intermittent traction the ring will sometimes give way through pressure of the shoulders and thus permit delivery.

Again, if an unrotated posterior occiput is found we try to make a bimanual rotation to anterior and, succeeding, forceps are quickly applied and delivery made as in anterior cases.

We have found these three methods the most satisfactory. Failing in our attempts to correct a persistent posterior we are facing a difficult problem with several alternatives. First, application of forceps on the posterior occiput and a rotation with forceps to anterior by the Scanzoni method. Second, a posterior rotation with the forceps thus bringing the occiput down into the hollow of the sacrum. A few tractions with the forceps will often indicate which way the occiput will most easily rotate and both procedures are done in the hope that the pressure of the shoulders will relax the spasm of the ring. Third, all efforts with forceps failing we have nothing left but a version. With an average head, an average pelvis and a very complete anesthetic, not gas and oxygen, we may, by pressure upward on the head, cause the ring to give way sufficiently to enable us to do a version, but the after-coming head will be our problem and many babies are lost at this point. Preceding any of these maneuvers, an episiotomy is always advisable, particularly in primiparae.

All these procedures failing, what are we to do? Truly, we are facing a very serious situation. One might naturally think of an abdominal section but experience has taught us that after any such extensive manipulation the time for a cesarean section has passed, the risk to the patient being too great. We have found, however, that sometimes when each plan has been tried and failed, we may go back and try one or the other over again. Some change has taken place and we now succeed. We have as yet to fail in making a delivery but we must frankly admit the loss of a number of babies and in some cases a great deal of maternal injury some of which has been very difficult to repair.

If we could be wise enough to foresee that such a complication would arise we are quite certain we would elect a cesarean section as being far safer and far less injurious to both mother and baby than a delivery by the natural channel; but, unfortunately, this is not the case with most of us. Granting that all plans may fail, it occurs to us that the sacrifice of the baby will be necessary in the interest of the mother though by this time it is quite likely that the baby has lost its life. A decapitation will enable us to push the body back into the uterus, do a version and deliver. We once

succeeded in this way in a case of impacted shoulders, the head having been brought into the outside world by the efforts of two physicians where it remained for over an hour despite the combined efforts of the doctors. The baby was, of course, dead and weighed over 13 pounds.

Before leaving the subject of Bandl's ring, we are quite certain that a spasm of this part of the uterine muscle sometimes involves the expulsion of the placenta often requiring manual removal of this organ and sometimes causing a very ugly hemorrhage. This may occur when there has been no evidence of spasm during the birth of the baby.

As the causes of dystocia and obstructed labor are too numerous to discuss at one time we will speak of two more, viz., transverse and face presentations. Unless spontaneous evolution occurs, which is rare in transverse cases, labor will be obstructed sooner or later. A change of fetal polarity usually a podalic version at the proper time with reference to cervical dilatation will solve our problem in practically all cases. Of course, we are speaking only of those cases of transverse presentation which have not been or cannot be corrected in the early part of labor by an external version.

In face cases we need not be concerned where the chin rotates anteriorly but in those in which the chin rotates into the hollow of the sacrum we sooner or later come to an impasse and if the delay is too long the face may become impacted. Ordinarily, however, conditions are such that a podalic version may be done successfully or the head may be pushed back, then well flexed and next delivered by forceps, or possibly allowed to come through as an occipito-anterior case. In impacted chin cases where the patient has not passed the danger line, a cesarean section is to be considered; otherwise a sacrifice of the baby may be necessary.

We have already spoken of posterior occipital positions but we wish to discuss this condition a little further in its relation to obstructed labor.

An R.O.P. is often considered as the second occipital position in point of frequency, L. O. A. being the first and R. O. A. the third; however, in an analysis of nearly five hundred cases, R. O. P. occurred eighty-five times, R. O. A. one hundred and thirty-four times and L. O. A. two hundred and twelve times, thus R. O. P. was the third position in frequency. However, the total number of cases is not large and we must admit a certain element of error in diagnosis.

Fortunately, a large percentage of posterior cases will rotate spontaneously but enough of them come to a halt without any apparent attempt at rotation and a few rotate to the transverse diameter and then become impacted, a deep transverse arrest which is a formidable complication.

While we know that the pelvic inlet does not form a regular circle we will consider it as such and, as well known, a circle has 360°. Let us mark this circle just as the numerals are placed on the face of a clock, allowing twelve to represent the symphysis and six, the sacrum. Twelve to six will represent the left side and six to twelve will represent the right side.

In an L. O. A. position, the occiput will be at 1:30 o'clock and in order to rotate anteriorly will travel only 45° or $\frac{1}{8}$ of a circle, while in an R. O. P. position the occiput will be 7:30 o'clock and in order to rotate anteriorly will be compelled to travel 135°, or $\frac{3}{8}$ of a circle; therefore, the effort to accomplish this is something like the effort to walk fifteen miles as compared with five miles. More effort, more muscular energy and more time is required and frequently the patient becomes exhausted and gives out before the longer distance is covered; indeed, even before a small part of the distance is traveled. This is exactly what happens quite frequently, the occiput remaining posterior, that is at 7:30 o'clock, a persistent right occipitoposterior, or it may be on the left side, 4:30 o'clock, though this is the least common position, or the occiput may move into the transverse 9 p. m. right or 3 p. m. left and stay there as a transverse arrest.

Another cause for the difficulty is to be found in the fetal head. In anterior cases, the head is well flexed and as a result the shortest diameter of the head, viz., the suboccipitobregmatic diameter 9.5 cm., meets the girdle of resistance, while in occipitoposterior positions the head is more nearly in a military position (straight up) in which case a much longer diameter, the occipitofrontal, 11 cm., meets the girdle of resistance or the pelvic inlet. Inasmuch as the fit is a tight one at best, the difference of 1.5 cm. has no little influence on the progress of labor in a posterior position as compared with an anterior one.

Preliminary engagement often does not occur or not to much degree; the poorly flexed head does not fit the pelvic canal well thus predisposing to a premature or an early rupture of the membranes; dilatation is slow and tedious and after 24 hours or more the patient who entered labor smiling and happy presents

a very different picture. We recently saw a woman in consultation who had been in labor for nearly sixty hours with a persistent R. O. P., an occiput still at 7:30 o'clock and progress at standstill. After several hours of rest under morphine and scopolamine the cervix was found to be sufficiently dilated for delivery and, as expected, we found also a contracted Bandl's ring. Fortunately we were able to overcome the difficulty and she was delivered of a living baby without injury other than the episiotomy.

Undoubtedly we should look upon these cases as obstructed labors, for progress ceases and we should interfere in the interest of the baby as well as the mother; but we must temporize until the condition of the cervix is such as to permit more radical measures with safety. We can usually do so and in this sense we cannot say that all progress is absolutely arrested. It is more strictly speaking a relative matter.

With regard to the one statement as to the baby's interest, Arthur Stein of New York reported in the *Journal of the American Medical Association* a number of years ago the results of his investigations of the birth histories of inmates of institutions caring for morons, imbeciles, epileptics and more or less mentally deficient individuals, over 5000 of them. He found that, while a certain number had been brought into the world by instruments or otherwise, a very large percentage were the result of long, tedious, so-called spontaneous labors and his conclusions were that this type of labor was responsible for intracranial injury, the ultimate result being the mental condition of these inmates, or at least a large percentage of them. It is also interesting to note that Dr. DeLee in his article on "Prophylactic Forceps" quoted the result of Dr. Stein's investigations as one of his arguments in favor of his prophylactic forceps idea.

Facing a problem of this character we have several procedures any one of which may be successful; but again we must insist that the cervix be fully dilated or easily dilatable, otherwise we may inflict a serious injury and stand a good chance of losing the baby.

If the head is fairly well engaged and the cervix only 3 or 4 cm. dilated, with thick edges, we may introduce a No. 4 Vorhees bag the pressure of which will increase the degree of dilatation and soften the cervix. A pound weight on this bag will often help. In the meantime, we can give our patient some rest while we wait in the hope that when the bag is expelled the occiput will rotate anteriorly and labor proceed at least to a point where a

forceps extraction can be rather easily made. This will sometimes happen; but more often we are not so fortunate and our judgment tells us that we should proceed with the delivery.

Gas and oxygen if available, if properly given and if there is proper cooperation between patient and anesthetist, will be quite satisfactory up to this time but from now on we have found that ether is best because nitrous-oxide does not give us proper relaxation.

The head by this time is practically always in the midplane or about midway between inlet and outlet.

The cervix being now in proper condition, we may apply forceps and after several careful but sufficiently strong tractions, we may notice that the occiput shows a tendency to rotate anteriorly. We may encourage this movement cautiously, shifting our forceps as necessary and eventually completing our delivery by the Scanzoni method. Extreme caution is advised because serious maternal injury can easily occur.

Occasionally we may notice that the occiput shows a tendency to rotate posteriorly and if this movement is encouraged we may deliver the occiput in the hollow of the sacrum. This maneuver has been condemned by one of our confreres but, while it may be attended with more perineal injury than we would like, yet we have practically always done a preliminary episiotomy and besides, in many of these cases it is really "any port in a storm."

There is another maneuver which may be successful. While after many hours of labor with premature or at least very early rupture of the membranes the uterus is grasping the fetal body very closely, yet under deep anesthesia it is still possible in some cases to push the head back, rotate it to an R. O. A., indeed, in some cases to an L. O. A., lead it again into the pelvis and allow labor to proceed or make an immediate forceps delivery with the head in the new position. We call this a bimanual correction as we use the external hand on the abdomen to assist in the rotation.

Still another maneuver is that of a podalic version and extraction. Obviously, it is impossible to select any one method as the best way of solving the problem of persistent occipitoposterior position, and it is also obvious that we must fit the method to the individual case; frequently we are compelled to try all the methods before finding one that succeeds. However, we have found that a podalic version has been the most satisfactory method of delivery and in a larger percentage of our cases than any other procedure.

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OCTOBER, 1932

EDITORIALS

JACKSON COUNTY MEDICAL SOCIETY GOES ON THE AIR

That a better understanding between the layman and the legitimate physician may be fostered the Jackson County Medical Society began broadcasting a series of weekly health talks over Station WDAF on August 30.

The talks are given by a qualified broadcaster and are articles submitted by members of the Jackson County Medical Society. Each talk is edited by a committee composed of Drs. Jabez N. Jackson, A. Morris Ginsberg and Albert S. Welch and must be approved by the Council of the Society. Each broadcast, while strictly medical, is written for the layman's understanding and not only proposes to give the layman information upon the subject but to give him an insight into the work of the physician and to inspire faith and confidence in the reputable medical profession.

The lay public has received so much incongruous and inaccurate information about human diseases, their origin, treatment and prevention, and about the reputable physician, his knowledge of disease and methods of treating it, that the Jackson County Medical Society feels it to be a duty as the recognized reputable medical organization to do all it can to educate the people on these and related topics.

The name of the physician who has prepared the broadcast is not announced but the schedule of subjects and authors from August 30 to November 22 are: "The Hidden Diseases of Childhood," Dr. Hugh L. Dwyer; "The Doctor Takes a Look at Motherhood," Dr. Minford A. Hanna; "Posture," Dr. Frank D. Dickson; "On the Position of 'Being Cool' in Guiding Children," Dr. G. Leonard Harrington; "The Kansas City Southwest Clinical Society and Public Welfare," Dr. John L. Myers; "Periodic Health Examination," Dr. George H. Hoxie; "The Tired Child," Dr. Phillip S. Astrowe; "The Goiter Problem," Dr. Kerwin

W. Kinard; "Mental Hygiene," Dr. G. Wilse Robinson, Jr.; "Kansas City's Health," Dr. Calvin L. Cooper; "Accidents of Childhood," Dr. Edward P. Heller; "Tuberculosis—A Disease of Childhood," Dr. Harry C. Berger; "Varicose Veins," Dr. John G. Hayden.

CLINICAL CONFERENCE AT KANSAS CITY

The tenth annual fall clinical conference of the Kansas City Southwest Clinical Society convening in Kansas City October 3 to 8, promises to be the best ever held. A dozen of America's most distinguished practitioners will deliver addresses and assist in clinical work. The scope of the clinics this fall is very broad and much that is new in the field of medicine and surgery will be offered.

Morning hospital clinics under the chairmanship of Dr. J. Milton Singleton will be held each day at eleven allied hospitals from 8:30 to 11:30. In the afternoon scientific lectures will be presented as well as at two evening sessions to be held on Tuesday and Thursday.

On Monday evening, October 3, a public meeting will be held which will be open to the laity as well as the profession. Each year this public meeting has featured the opening night of the session. The speakers are selected with the view of giving the public an opportunity of listening to members of the medical profession outside of Kansas City and Missouri who have achieved eminence in their fields and will bring words of encouragement to nonmedical minds upon the progress of medicine in the prevention, control and cure of disease. This year Dr. Morris Fishbein, Chicago, editor of the *Journal of the American Medical Association*, will speak on "Food for Thought," and Dr. Francis Carter Wood, New York City, director of the cancer research department of Columbia University, will address the meeting on "The Diagnosis and Treatment of Cancer from the Layman's Point of View."

At the scientific session on Tuesday evening Drs. Barney Brooks, Nashville; Vernon C. David, Chicago, and John H. Musser, New Orleans, will deliver addresses dealing with recent investigations of various medical subjects. On Thursday evening Drs. Charles A. Bahn, New Orleans; Ralph A. Fenton, Portland, Oregon, and Lewis J. Pollock, Chicago, will present lectures dealing with recent problems in their fields.

A symposium on tuberculosis will be held on Thursday. Patients from the Kansas City Tuberculosis Hospital will be used for demonstrating methods of examinations and treatment in all stages of the disease. Dr. Frank

P. Miller, Los Angeles, will be the guest speaker at the symposium.

A joint meeting with the Central States Pediatrics Society will be held the last two days of the session.

Other prominent guest speakers will be Dr. Joseph L. Baer, Chicago, who will conduct a clinic on "Blood Transfusions in Placenta Previa" and present a clinical lecture on "The Cervix Uteri in Obstetrics and Gynecology." Dr. Donald C. Balfour, Rochester, Minnesota, will hold a hospital clinic on "Lesions of the Stomach and Duodenum and Their Complications" and give an address on "Benign and Malignant Lesions of the Stomach."

Dr. Ralph E. Herendeen, New York City, will conduct a clinic on "Bone Diseases: Diagnosis and Treatment of Bone Tumors" and will discuss "Roentgen Therapy in the Treatment of Certain Bone Tumors" before an afternoon general assembly. Dr. James B. Herrick, Chicago, will hold a clinic on "Coronary Diseases" and deliver a lecture on "Common Errors in the Treatment of the Heart."

All scientific sessions will be held in the President Hotel. Dr. Ira H. Lockwood, Kansas City, is chairman of a committee in charge of the scientific exhibits in the assembly hall in the hotel. Commercial exhibits will be grouped on the convention floor.

Entertainments, under the chairmanship of Dr. Radford Pittam, will include noonday round-table luncheons, a get together smoker on Wednesday evening, a golf tournament and a golf dinner. Special entertainments will be arranged for the wives of visiting physicians.

THE DAMAGE SUIT RACKET

Crime seldom if ever in the long run pays dividends. No matter how much the criminal may earn at one "haul" he usually finds himself penniless at the end of his career, and end it must sooner or later. The confirmed criminal, denizen of the underworld, has nothing to lose except his liberty or his life. When, however, a supposedly respectable citizen finds himself enmeshed in the law's net for criminal behavior which he has managed to cover up over a greater or lesser length of time much more than mere monetary loss is sustained. A blasted reputation, respectability destroyed and a career wrecked are frightful penalties that such person must endure. Of this stripe are the ambulance-chasing lawyers and would-be lawyers who swoop upon injured persons like vultures to their prey in order to wring a few dollars out of somebody, the chaser cares not who. Of course, such persons usually have no particular reputation to lose, no career to blast;

but occasionally a supposedly respectable person who pursues these reprehensible practices is turned up and his behavior exposed. Such a one was recently exposed by the *St. Louis Star and Times*, which paper startled the nation by its exposure of the medical diploma mill in 1923.

In this case the persons involved were not satisfied with the jobs they could obtain to represent persons who were actually injured; they manufactured accidents. The scheme is simple. In collusion with an automobile driver, a lawyer, a doctor, and at least one other person as a witness, the "victim" allows himself to be lightly struck by the automobile. The conniving physician then applies numerous bandages and perhaps a splint and "diagnoses" several severe injuries.

In its exposure of the fake accidents the *Star and Times* names one firm of lawyers widely known in St. Louis as damage suit lawyers, one physician, and one clerk at police headquarters. The lawyers and the doctor were arrested and released on bond. The clerk confessed and resigned from his job. The doctor is not a member of our Association.

Whether the exposure will have a deterrent influence upon this sort of "racket" is not predictable. It does, however, throw some light upon the unenviable reputation St. Louis bears among companies writing liability insurance, including insurance of physicians against suits for malpractice, namely, that in St. Louis damages are awarded the plaintiffs more frequently than in any other city in the country. Naturally, the premiums on liability policies are higher than in other cities.

CORRECTION

In the article by Dr. Frank D. Gorham, St. Louis, on "Recurrent Peptic Ulcer," page 357, August issue, is an error in Table 1. The percentage of cases of peptic ulcer to total admissions at Cook County Hospital should be .69 per cent instead of 1.69 per cent. In the average of all hospitals the figure should be 1.65 per cent instead of 1.79 per cent.

NEWS NOTES

The wage loss, medical expense and overhead insurance costs resulting from accidents in the United States last year exceeded \$2,225,000,000.

The United States Public Health Service reports that there are over two million cases of malaria annually in southeastern United States.

A fly may carry with it as many as 6,000,000 germs.

Of the 700 drugs listed in an Egyptian medical work of 1550 B. C., about 18 are in the United States Pharmacopoeia today.

Ninety-nine per cent of the calcium of the human body is in the bones and teeth; the remaining one per cent exists as soluble salts in the fluids and soft tissues.

The pharmacist has much less call for his skill and knowledge nowadays, a survey shows, for physicians increasingly prescribe medicines in terms of trade names instead of ingredients to be compounded.

Mithridates, King of Pontus 120-63, so feared his enemies would poison him that he concocted an antidote of 38 ingredients to render himself poison-proof. In 63 he was planning a campaign but his troops revolted. At his own bidding he was put to death by a Celtic soldier after having failed to kill himself by poison.

Lieutenant R. P. Rutledge, Festus, son of Dr. J. E. Rutledge, Festus, and brother of Dr. Paul E. Rutledge, Kirkwood, was killed in an airplane crash August 24 near Managua, Nicaragua. He had been in the Marine Air Service in Nicaragua for the last year and at the time of the accident was assisting in the search for a plane that had crashed a few days previously.

Dr. Ernst von Quast, Kansas City, who has practiced medicine in that city for nearly half a century celebrated his seventy-ninth birthday anniversary August 21 in Research Hospital. Dr. von Quast is the last of the original staff of physicians at the hospital which he helped to found in 1886. He has been a patient in Research Hospital for the last four months recovering from an operation.

One wing of the Menorah Hospital, Kansas City, will be used exclusively for the treatment of cancer, especially treatment by radium. A fund of \$10,000 was collected by the Woman's Auxiliary of Menorah Hospital and nine radium needles were purchased and donated to the hospital. A committee of specialists has been appointed by Dr. Alvin Lorie, president of the hospital staff, to treat and study the disease. The committee meets each week to study the cases treated during that week.

Dr. Daniel L. Sexton, St. Louis, was a guest of the St. Clair County (Illinois) Medical Society in East St. Louis, September 1, at the first fall meeting and delivered an address on "The Practical Value of Present Day Endocrine Therapy."

Sir Ronald Ross, London, England, who demonstrated in 1897 that the *Anopheles* mosquito carried the malaria parasite, died September 16, at the Ross Institute and Hospital for Tropical Diseases, London. He was director-in-chief of the Institute at the time of his death. In 1902 he received the Nobel Prize in Medicine.

Preventive measures to stop the spread of tuberculosis was the basis of the regular weekly medical broadcast for laymen given by the St. Louis Medical Society, September 13. Modes of infection, manifestations of infection and the breaking down of resistance by conditions or other diseases were emphasized. The conditions contributing to the lowering of an individual's resistance were pointed out as well as the care needed in handling the patient with active tuberculosis.

Among the new admissions in the United States Pharmacopoeia XI will be: Antimenin-gococcus serum, antipneumococcus serum, carbon dioxide used to treat gas poisoning, diphtheria toxin for the Schick test, diphtheria toxoid, ephedrine and ephedrine sulphate, ethylene anesthetic, rabies vaccine, typhoid vaccine and liver extract. Other titles which have been tentatively admitted subject to the adjustment of possible patent or trade mark complications include insulin and viosterol.

A two-years' graduate course in medical social work leading to a master's degree will be offered this year at St. Louis University by the School of Sociology in cooperation with the School of Medicine it was announced September 13 by Dean Joseph Husslein. Entrance requirements for the course include the completion of four years of collegiate study in an accredited institution.

Students will do their field work and practice in the group of university hospitals, including St. Mary's, St. Mary's Infirmary, Mount St. Rose Sanatorium, St. Mary's Dispensary and the new Firmin Desloge Hospital when it is opened this fall. Academic work will include courses in social psychiatry, problems of case diagnosis and treatment, and social statistics. Several fellowships are being offered for the courses.

Lt. Col. Norvelle Wallace Sharpe, St. Louis, delivered a lecture on "The Military Law and the Reserve Officer" during the training schedule for reserve officers in the St. Louis District Ordnance Office of the War Department conducted at the district office in the Bell Telephone Building, St. Louis, September 12 to 25. From two to six lectures were delivered daily on all phases of military activity from the ordnance standpoint.

Our President, Dr. Joseph W. Love, Springfield, visited headquarters at St. Louis on September 14. At 2:30 in the afternoon he was the guest of the St. Louis County Medical Society, Clayton. On the following day, September 15, through the courtesy of Dr. John L. Roemer, president of Lindenwood College for Young Women, St. Charles, Dr. Love addressed the first student assembly of the season at the College.

On September 7, Dr. Love was the guest of the Buchanan County Medical Society at the opening meeting of the fall session held at the Woodson Sanitarium, St. Joseph.

The Buchanan County Medical Society was entertained at its opening fall activities by an annual chicken dinner at the Woodson Sanitarium, September 7. The custom was inaugurated about twenty-five years ago by the late Dr. C. R. Woodson, founder of the Woodson Sanitarium, and the custom has been perpetuated by his daughter, Mrs. Julia Woodson Edmunds, superintendent of the Sanitarium. Approximately 150 physicians attended the dinner.

Dr. T. Kenneth Brown, St. Louis, professor of obstetrics in Washington University School of Medicine, was the guest speaker and addressed the meeting on "Puerperal Infection."

The Jackson County Medical Society at a meeting September 6 voted to move the library and headquarters to the General Hospital. The vote was taken after Mr. H. F. McElroy, city manager, offered the Society the use of rooms in the hospital. Mr. McElroy said when a new wing of the hospital is built with money from the ten-year plan fund, a better room would be provided for the Society under a thirty-year lease at one dollar a year. The Society has had its headquarters in the Medical Arts Building where no rent was paid. When the building was taken over by a holding corporation recently the holding company countermanded the rent free privilege and demanded payment of monthly rental.

A method of treating chronic infection of the lungs by flushing out the air passages with a watery solution was described by Dr. M. Joseph Mandelbaum, New York City, in an address before the meeting of the American Congress of Physical Therapy in New York City, September 6-10. By means of specially devised rubber tubes, antiseptic solutions are introduced into the lungs drop by drop. The exact place where the medicine is deposited may be observed by means of the roentgen ray and fluoroscope. The method is not a cure, Dr. Mandelbaum emphasized, but when properly used relieves distressing coughs and other symptoms. It is particularly helpful in the treatment of chronic bronchitis and tuberculosis, although it must not be used in early or acute cases with fever.

The following articles have been accepted for New and Nonofficial Remedies:

Abbott Laboratories

Haliver Oil with Viosterol 250 D—Abbott
Soluble Gelatin Capsules Haliver Oil with
Viosterol 250 D—Abbott, 3 minims

Ciba Co., Inc.

Solution Dial—Ciba with Urethane, Sterile
Ampules, 1.1 c.c.

Solution Dial—Ciba with Urethane, Sterile
Ampules, 2.3 c.c.

Cutter Laboratory

Normal Serum (from the horse), 100 c.c.
bottle

Lederle Laboratories, Inc.

Normal Horse Serum, 30 c.c. vial packages

National Drug Co.

Tetanus Perfringens Antitoxin

Parke, Davis & Co.

Liver Extract—P. D. & Co.

Vials Liver Extract—Parke, Davis & Co.

Liver Extract, Intramuscular—P. D. & Co.

Glaseptic Ampoules Solution Liver Ex-
tract—P. D. & Co. (Intramuscular)

Parke-Davis Haliver Oil with Viosterol—
250 D

Soluble Gelatin Capsules—Parke-Davis
Haliver Oil with Viosterol—250 D, 3
minims

Smith, Kline & French Laboratories

Pentnucleotide

Vials Pentnucleotide, 10 c.c.

The following article has been exempted and included with the List of Articles and Brands Accepted by the Council But Not Described in N. N. R. (New and Nonofficial Remedies, 1932, p. 487):

Sharp & Dohme, Inc.

Pollen Extracts Diagnostic—Mulford, zone
test packages

A proposal that families with incomes of \$2700 or less a year should receive all needed medical service for a fee of 3 per cent of their incomes was defeated at a meeting of the Omaha-Douglas County (Nebraska) Medical Society, September 13. The proposal provided that all members of the society, hospital and nurses offer their services to the group of families in the income group.

An executive board composed of members of the society would handle the medical end of the plan and the financial part would be handled by a finance company. Members of the organization would be permitted to choose their own doctor, nurse and hospital, and each physician or surgeon would be required to list a schedule of fees for patients in the \$2700 class. Total receipts and bills would be pooled each month. Each doctor would receive from the pool the same percentage of the amount he billed his patients as the pool earned in receipts.

Hay fever and other forms of the group of illnesses classified under the head of allergy, are transmitted as distinct hereditary tendencies, declared Drs. R. M. Balyeat and M. H. Richards, Oklahoma City, in a paper presented before the Third International Congress of Eugenics in New York City, August 23. The two investigators arrived at their conclusion through a study of family histories of patients coming under their care at a hay fever and asthma clinic. Full pedigrees of both maternal and paternal sides of fifty-three families were obtained. Although the tendency to hay fever and other allergic diseases acts as a dominant character in heredity, its dominance is irregular. Moreover, the tendency may express itself early or late in life so that no chart of an unaffected family can ever be considered as complete. Besides this, the pollen or other alien protein that causes the trouble must be present. Inheritance of allergic diseases is not necessarily specific as a parent having hay fever may have offspring liable to asthma, eczema or migraine.

Dr. J. S. Mott, Kansas City, an Honor Member, 88 years old, retired from active practice July 15, 1932. At that time he donated his medical library to the Jackson County Medical Society library. Dr. Mott was one of the founders of the Kansas City Medical Society which served a very useful purpose during its career. In 1889, it was practically absorbed by the Jackson County Medical Society. Dr. Mott is a graduate of the University of Michigan Medical School, 1865. Before

taking up the study of medicine Dr. Mott had entered the United States Military Academy at West Point but after two years of service he was honorably discharged in 1863 because of myopic astigmatism. During the Civil War he served with the 8th East Tennessee Cavalry at Camp Nelson, Kentucky, with the rank of First Lieutenant. He practiced general medicine until 1893 when he decided to specialize in diseases of the eye, ear, nose and throat. He spent several years doing postgraduate work in this country and abroad and then returned to Kansas City to devote himself entirely to his special work.

The inhalation of carbon dioxide diluted in air or oxygen has been helpful in relieving the paroxysmal stage of whooping cough, Prof. Yandell Henderson of Yale University recently reported. The treatment was successfully given to ten children, ranging between nine months and seven years of age. In all of them after three or four days of inhalation the paroxysms were considerably lessened in severity and frequency and by the eighth day the coughing became so infrequent that the treatments could be stopped. A mixture of 7 per cent carbon dioxide and 93 per cent oxygen was inhaled through a mask attached to a standard anesthesia machine or a small tent having a capacity of about one cubic foot was used for some children who did not like the mask. The child inhales the gas mixture for ten or fifteen minutes twice a day, either just before a meal or two hours after the last meal.

The use of carbon dioxide inhalations for whooping cough grew out of the similar treatment found successful for treating certain stages of pneumonia and for other lung diseases in infants. In whooping cough the idea is not only to prevent the development of pneumonia but to lessen the whooping stage.

Whether or not the Federal Government should establish a leper colony in Hawaii similar to the one at Carville, Louisiana, will be determined by the results of investigations now being made in Hawaii by three experts of the United States Public Health Service, Drs. J. C. Perry, J. W. Kerr and G. W. McCoy.

The United States Public Health Service in cooperation with the Territorial Government has been operating a station for scientific study of leprosy at Kalihi, T. H., since 1905. In the course of these studies, many of which have been on the effectiveness of various derivatives of chaulmoogra oil for treatment of the disease, active cases of leprosy are actually treated. However, the station is not able to treat

all lepers who may apply as is done free of charge for lepers in the United States at the colony of Carville. The famous Hawaiian leper hospital at Molakai is less a treatment center than a custodial home where lepers are sent to die. There is so much leprosy in Hawaii that life is said to revolve around the disease and its problems, almost every family being affected. The disease is mixed up with the social and political life of the country and is a normal part of the life of all Hawaiians.

The following speakers responded to invitations from the Postgraduate Committee of the State Association to deliver addresses at recent meetings of the component county medical societies:

Dr. G. Leonard Harrington, Kansas City, was the guest of the Jasper County Medical Society at Joplin, June 7, and gave a lecture on "Mental Disease and the Depression."

On June 8, the St. Louis County Medical Society had as its guest at a meeting in Clayton, Dr. Dudley S. Conley, Columbia, who spoke on "Complications and Mortality of Acute Appendicitis."

At the June 14 meeting of the Five County Medical Society at New Madrid, Dr. Harry G. Bristow, St. Louis, spoke on "Diagnosis and Treatment of Some Acute Infections"; Dr. J. P. Costello, St. Louis, spoke on "Treatment of the Common Disorders of Childhood," and Dr. Alphonse McMahon, St. Louis, talked on "Treatment of Some Chronic Infectious Diseases."

Drs. L. H. Jorstad and Richard S. Weiss, St. Louis, were guests of the Gasconade-Maries-Osage County Medical Society, at Mount Sterling, on June 23. Dr. Jorstad gave an address on "Cancer of the Lips and Mouth," and Dr. Weiss spoke on "Precancerous Dermatoses."

The St. Francois-Iron-Madison County Medical Society had as its guests at Farmington, June 24, Drs. Warren R. Rainey and Borden S. Veeder, St. Louis. Dr. Rainey addressed the members on "The Office Treatment of Rectal Conditions," and Dr. Veeder spoke on "Some Common Conditions in Children and Their Treatment."

Dr. E. Lee Shrader, St. Louis, was the guest at a luncheon meeting of the Kiwanis Club at Mexico, June 24, and spoke on "The Care of the Heart in Middle Life."

At the September 7 meeting the Buchanan County Medical Society had as its guest Dr. T. Kenneth Brown, St. Louis, who spoke on "Puerperal Infections."

OBITUARY

LYDA HILLYARD, M.D.

Dr. Lyda Hillyard, St. Joseph, a graduate of Central Medical College, St. Joseph, 1905, died at her home August 31 following a stroke of paralysis a few days before. Dr. Hillyard was 59 years old.

Dr. Hillyard was born in Corydon, Iowa, and received her preliminary education in Al-lerton and Des Moines. She was qualified as an instructor in both piano and violin and taught music for a short time after she moved with her family to St. Joseph in 1905. After she finished her medical studies she began her practice in St. Joseph where she specialized in diseases of women and children. She was the first outstanding woman physician in St. Joseph and in the years of devotion to her calling found many who needed her services. Her work gradually grew and the last years of her life were strenuous. Often she worked late into the night and in the end she sacrificed her own health that she might give aid to those who called for her assistance.

Dr. Hillyard was a member of the Buchanan County Medical Society and the Missouri Valley Medical Association. She is survived by two brothers and three sisters.

OTTO F. FISCHER, M.D.

Born at O'Fallon, Illinois, on October 22, 1871, Otto F. Fischer began his education in the town of his birth. The family then moved to St. Louis where he attended public and high schools. The drug store, by which portal so many doctors have entered the medical profession, offered the young man a field of activity. He graduated from the St. Louis College of Pharmacy. After a few years as a pharmacist, he studied medicine at Missouri Medical College, graduating in the class of 1895. Shortly thereafter he established himself in private general practice in the southern part of the city, and since then had practiced in the same locality. He was a member of the staff of the Lutheran Hospital.

Dr. Fischer became ill while on a vacation in Wisconsin and died at Oshkosh on July 13, 1932, of gastric hemorrhage. For many years he was autopsy physician to the coroner. By diligent and studious application in connection with the duties of that office he acquired a considerable knowledge of pathology and legal medicine. To his many patients he gave a conscientious service that was augmented by a receptive attitude toward the newer conceptions

and methods in the art of healing. He also enjoyed the respect of his colleagues. His associates and friends will long remember his mildness of manner and calm equanimity, which were outstanding characteristics.

Although he was a member of our Society for more than a quarter of a century, and but rarely attended the meetings, that membership was to him a highly revered privilege. He defended the aims of organized medicine and supported its principles.

To the bereaved relatives we extend our sincere sympathy, and with them we mourn the mutual loss of our esteemed fellow, Dr. Otto F. Fischer.—R. E. S., in the *Weekly Bulletin* of the St. Louis Medical Society.

OLFACTORY DISTURBANCES

Ernest M. Seydell, Wichita, Kan. (Journal A. M. A., Aug. 20, 1932), calls attention to the fact that in patients with olfactory disturbances it is advisable to make tests of the acuity of the sense of smell, nasal taste, nasal tactile sense and the gustatory sense. Careful olfactometric examinations followed, when possible, by accurate postmortem examinations will extend the knowledge of olfaction. The cooperation of surgeons who come in contact with numerous skull fractures should be sought to assist in this problem. The intravenous injection of smell substances appears to be valuable in the differentiation between the respiratory and the essential anosmias, and in the treatment of the peripheral parosmias. Since the cacosmias and the peripheral parosmias are of a benign nature, it is essential that great care be taken in differentiating them from the central parosmias and hallucinations which point toward some serious cerebral disturbance.

END-RESULTS OF SURGERY IN EXOPHTHALMIC GOITER

Howard M. Clute and J. Ross Veal, Boston (Journal A. M. A., Aug. 20, 1932), point out that the immediate advantages of surgical measures in the treatment of exophthalmic goiter have been convincingly demonstrated and that the operation of subtotal thyroidectomy has been made a safe procedure. They summarize the results of surgical treatment in ninety-seven patients whom they have followed consistently for over five years since operation and have checked by personal examination and basal metabolic estimations. In eighty-two patients complete and satisfactory cure was obtained. In seven other patients slight toxicity is still present, entirely controlled by either secondary operation or compound solution of iodine. In three patients of the group myxedema developed; this was entirely controlled by desiccated thyroid. Four of the patients in the group are still toxic. None of the four are in any way incapacitated, and all are working. One of the patients in the group died following a recent secondary operation for recurrent hyperthyroidism and congestive heart failure. It is therefore the author's belief that ninety-two, or 94.8 per cent, of these ninety-seven patients are cured of their disease by subtotal thyroidectomy, and that this figure may be assumed to be a fair estimate of the probability of cure of exophthalmic goiter by adequate surgical measures.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL FOR 1932

(UNDER THIS HEAD WE LIST SOCIETIES WHICH
HAVE PAID DUES FOR ALL THEIR MEMBERS)

HONOR ROLL

- Ste. Genevieve County Medical Society, December 16, 1931.
- Miller County Medical Society, December 23, 1931.
- Mercer County Medical Society, December 24, 1931.
- Camden County Medical Society, January 5, 1932.
- Johnson County Medical Society, January 20, 1932.
- Dent County Medical Society, January 22, 1932.
- Macon County Medical Society, February 10, 1932.
- Webster County Medical Society, March 21, 1932.
- Platte County Medical Society, April 7, 1932.
- Pulaski County Medical Society, April 8, 1932.
- Schuyler County Medical Society, April 14, 1932.
- Ralls County Medical Society, April 22, 1932.
- Wright-Douglas County Medical Society, April 26, 1932.
- Barry County Medical Society, May 2, 1932.
- Chariton County Medical Society, May 5, 1932.
- Benton County Medical Society, August 18, 1932.
- Cole County Medical Society, August 26, 1932.

BUCHANAN COUNTY MEDICAL SOCIETY

The regular meeting of the Buchanan County Medical Society was held at the Woodson Sanitarium September 7, at 7 p. m., with a large attendance. At this meeting the Society was the guest at a chicken dinner served by that institution which has been a custom for many years and was inaugurated by the founder, the late Dr. C. R. Woodson, twenty-four years ago. There is no doubt that every member greatly enjoys these occasions and will always entertain a kindly feeling for the management.

After the dinner the Society was called to order by the President, Dr. A. E. Burgher. The President of the Missouri State Medical Association, Dr. Joseph W. Love, Springfield, being present was introduced by Dr. W. T. Elam. Dr. Love made a very pleasing and timely talk which was well received.

The Secretary read a telegram from Dr. E. J. Goodwin, State Secretary, expressing regret that on account of a recent illness it would be impossible for him to be present.

Dr. James Stewart, Jefferson City, Secretary of the Missouri State Board of Health, made a very nice talk which was of interest to all the members.

The speaker of the evening who was to present the scientific part of the program, Dr. T. Kenneth Brown, St. Louis, was introduced by his old classmate, Dr. Earl Whitsell. The subject of Dr. Brown's address which was illustrated by lantern slides was "Puerperal Infection." The cause and treatment of this disease was gone into in a very scientific manner and there is no doubt but that many of his ideas are valuable. The address was instructive, well delivered and highly appreciated by the audience which was shown by the many questions asked.

A vote of thanks to Mrs. Julia Woodson Edmunds, Superintendent of the Woodson Sanitarium, for the wonderful dinner and entertainment was unanimous.

EMMETT F. COOK, M.D., Secretary.

RANDOLPH-MONROE COUNTY MEDICAL SOCIETY

The Randolph-Monroe County Medical Society met in regular session Tuesday, September 13, at 8:00 p. m., at McCormick Hospital, Moberly. The meeting was called to order by the President, Dr. L. O. Nickell, Moberly.

Dr. J. B. Stokes, who is now located at Excello, Mo., requested that he be transferred from Marion County to the Randolph-Monroe County Medical Society. His request for transfer was approved and the secretary instructed to notify the secretary of the Marion County Medical Society of this action.

A communication from the Missouri State Medical Association asking for a tuberculosis survey of Randolph-Monroe County was referred to the secretary for investigation and reply.

The resolution of Cape Girardeau County Medical Society was read, but no action was taken.

Dr. F. L. McCormick, Moberly, read a paper on "Pseudohypertrophic Paralysis" and presented five children, ranging in age from two to fourteen years, three of whom have the disease. A general discussion ensued.

After adjournment a lunch was served. In general, a very good meeting was had.

Members present were, Drs. O. O. Ash, Paul C. Davis, C. H. Dixon, Chas. K. Dutton, H. C. Griffiths, L. E. Huber, M. E. Kaiser, M. E. Leusley, F. L. McCormick, Jesse Maddox, O. K. Megee, L. O. Nickell, Carl Smith and R. D. Streeter, of Moberly; M. C. McMurphy, Paris; C. F. Burkhalter, Higbee; Don A. Barnhart, Huntsville; John P. Allen, Cairo. Visitors were, Dr. R. A. Mitchell and John Maddox, of Moberly; Dr. Wm. E. O. Johnson, Madison; Willard Barnhart, Huntsville, son of Dr. D. A. Barnhart and a senior student in Washington University Medical School.

F. L. McCORMICK, M.D., Secretary.

WRIGHT-DOUGLAS COUNTY MEDICAL SOCIETY

The Wright-Douglas County Medical Society met in Dr. Gentry's office at Ava, Thursday, August 25, at 2:30 p. m., with the following members present: Drs. J. D. Ferguson, J. L. Gentry, M. C. Gentry and R. M. Norman, of Ava; J. A. Fuson, Mansfield; L. T. Van Noy, Norwood; A. C. Ames, H. G. Frame and R. A. Ryan, of Mountain Grove. Also as visitors, M. L. Gentry, of Ava, medical student, and L. H. Brand, of Mountain Grove, druggist. The

meeting was called to order by the President, Dr. J. D. Ferguson.

Resolutions adopted by the Cape Girardeau County Medical Society in regard to charity work done under the auspices of the State Board of Health, in cooperation with free work done by the resident physicians were read and discussed and it was generally agreed that the Cape Girardeau County Medical Society was right in denouncing the practice, in that it was educating people able to pay for service to expect to receive it free. Our members also agreed with the Cape members in expressing a willingness to attend the really needy without pay.

A committee consisting of Drs. L. T. Van Noy, M. C. Gentry and A. C. Ames was appointed to write to the secretary of the State Board of Health in regard to the matter and also to ask for free typhoid vaccine and diphtheria toxoid for use in free work among the needy.

Dr. H. G. Frame read a paper on "Eclampsia" in which he reported some of the recent work done in such cases with the intravenous injection of magnesium sulphate solution and the excellent results obtained thereby.

Dr. M. C. Gentry read a very excellent paper on "Blood Sugar," giving the causes, symptoms, diagnosis and treatment of hypoglycemia and hyperglycemia, which naturally resolved itself into a discussion of diabetes mellitus and insulin.

A number of minor subjects were presented by several members and some interesting points were brought out and discussed. The meeting adjourned about 4:30 p. m. to meet at Norwood in November.

A. C. AMES, M.D., Secretary.

BIZARRE-SHAPED CELLS DESCRIBED BY KILDUFFE

An unusual disease of the red blood cells is poikilocytosis, so called because of the varied and often bizarre shapes of the cells. These deformed cells take on the unusual shape of a sickle; hence the disease is known also as "sicklemia." Little is known about this disease, except that it is chronic, hereditary, and peculiar to the Negro race. And yet, although the disease is infrequent, the occurrence of sickle cells in the blood without any other evidence of abnormality is not at all uncommon. Dr. Robert A. Kilduffe describes in the May issue of *Hygeia* some recently discovered diseases of the blood.

LINCOLN

Civil War days offered the President little opportunity for recreation or exercise. His visits to city and field hospitals, though depressing in their way, were at the same time good for both his body and his soul.

Stories of Lincoln's relation to the sick and wounded soldiers of both the Union and the Confederate armies are woven into the study of "Lincoln and the Doctors," a serial by Dr. Milton H. Shutes appearing monthly in *Hygeia*, The Health Magazine.

On his way to and from the Soldiers' Home, Lincoln often passed long lines of ambulances laden with the sick and the wounded. These sights made him yearn all the more for peace. On one occasion when he was warned not to go into a tent near by because therein were Confederate soldiers, ill, Lincoln replied with a hasty movement, "That is just where I do want to go," and he strode into the tent, shaking hands and offering words of comfort, to the great surprise and pleasure of the Confederates.

WOMAN'S AUXILIARY

WOMAN'S AUXILIARY TO THE AMERICAN MEDICAL ASSOCIATION

11th Annual Meeting, Milwaukee, 1933

President, Mrs. Walter Jackson Freeman, Philadelphia, Pa.

President-Elect, Mrs. James Blake, Hopkins, Minnesota.

WOMAN'S AUXILIARY TO THE MISSOURI STATE MEDICAL ASSOCIATION

9th Annual Meeting, Kansas City, 1933

President, Mrs. David S. Long, Harrisonville.

President-Elect, Mrs. Hudson Talbott, St. Louis.

ORGANIZED COUNTIES AND PRESIDENTS

COUNTY	PRESIDENT AND ADDRESS
Boone.....	Mrs. C. M. Sneed, Columbia
Buchanan.....	Mrs. C. H. Werner, St. Joseph
Cass.....	Mrs. H. A. Brierly, Peculiar
Cape Girardeau.....	Mrs. J. H. Cochran, Cape Girardeau
Clay.....	Mrs. H. J. Clark, Excelsior Springs
Cole.....	Mrs. Stanley P. Howard, Jefferson City
Gentry.....	Mrs. W. T. Martin, Albany
Greene.....	Mrs. W. C. Check, Springfield
Jackson.....	Mrs. Wilbur A. Baker, Kansas City
Johnson.....	Mrs. William R. Patterson, Warrensburg
Lafayette.....	Mrs. Odus Liston, Oak Grove
Linn.....	Mrs. Ola Putman, Marceline
Livingston.....	Mrs. Reuben Barney, Chillicothe
Randolph-Macon.....	Mrs. P. C. Davis, Moberly
St. Louis City.....	Mrs. A. G. Wichman, St. Louis
Saline.....	Mrs. L. S. James, Blackburn
Vernon-Cedar.....	Mrs. T. B. Todd, Nevada
26th District.....	Mrs. W. H. Breuer, St. James

Mrs. David S. Long, State President, was in St. Louis August 17 and met members of the board of the Auxiliary to the St. Louis Medical Society and of the State and National organizations at the home of Mrs. Willard Bartlett, a director in the National Auxiliary. Following the meeting the ladies were guests of Mrs. Bartlett at an informal luncheon.

The address made before the House of Delegates by our Mrs. A. B. McGlothlan at the Annual Session of the Missouri State Medical Association, May 23, 1932, is printed in full in the September *Journal of the State Medical Association*. Do not miss reading that fine address. Also, in the Auxiliary Department of the same number, our State President's letter to all of us.

The President, Mrs. Long, announces the following State Committee Chairmen: Program: Mrs. U. J. Busick, Springfield. Hygeia: Mrs. C. T. Ryland, Lexington. Courtesy: Mrs. J. De Voine Guyot, Higginsville. Revisions: Mrs. W. L. Alee, Eldon. Essay Contest: Mrs. Hudson Talbott, St. Louis. Public Relations: Mrs. Frank B. Henderson, Kansas City. Finance: Mrs. R. C. Haynes, Marshall. Press and Publicity: Mrs. M. P. Overholser, Harrisonville. Archives: Mrs. M. Pinson Neal, Columbia. Legislation: Mrs. Irl Brown Krause, Jefferson City.

The following recently elected county auxiliary presidents are announced: Cole County, Mrs. James Thomas Leslie, Jefferson City. Jasper County, Mrs. Ulysses G. Hoshaw, Joplin.

The Cass County Medical Society and Auxiliary

met the evening of September 8 at the home of Dr. and Mrs. A. H. Baldwin, Pleasant Hill. It was voted to repeat last year's program of placing Hygeia in the schools of the county. The guest speaker of the evening was Mrs. A. L. Bridges, of Kansas City, whose address, the "Romance of Medical History," prepared for clubs of lay women, proved delightful and informing.

In the Johnson County Auxiliary one hundred per cent of the membership answered the roll call at the first meeting this year. Chairmen for all standing committees recommended by the state president were appointed and are functioning. A representative was appointed to serve on the Warrensburg City Beautiful Association. The story of Jane Todd Crawford was read and a drive is on to achieve one hundred per cent membership in the county.

Mrs. Hudson Talbott, State President-Elect and Chairman of the Auxiliary Essay Contest on the "Prevention and Care of Tuberculosis," announces that the contest will be open to all junior and senior high school students in those counties where an auxiliary is established. The local auxiliary will name the local prizes. The State prizes will be a first prize each for junior and senior high schools of \$10 in gold, and a second prize each for junior and senior high schools of \$5 in gold.

The Lafayette County Medical Society and Auxiliary invited the Johnson County Medical Society and Auxiliary to a joint meeting and picnic at the country home of Dr. and Mrs. W. J. Frick, of Oak Grove, July 26. The State Auxiliary President, Mrs. David S. Long, was the guest speaker for the two auxiliaries at this meeting.

The Lafayette County Auxiliary has an admirable program for the year. Of the ten meetings, eight will have valuable and interesting study features. A new plan is adopted in that county, which is good for us all, i. e., in each town an auxiliary member is appointed to assist the County Hygeia Chairman.

We believe every Auxiliary woman in the United States will be interested in this sketch of Mrs. Walter Jackson Freeman, who succeeded, May 11, 1932, our Mrs. A. B. McGlothlan, as National Auxiliary President:

MRS. WALTER JACKSON FREEMAN

Corinne Keen was born in Philadelphia, November 4, 1868, the daughter of William Williams Keen, M.D., of Philadelphia, and Emma Corinna Borden, of Fall River, Mass. She is the ninth generation of Keens living on the banks of the Delaware, and on her mother's side lays claim to five Mayflower ancestors. She graduated at Vassar College in 1889 and was married on November 3, 1892, to Walter Jackson Freeman, of Philadelphia, later Professor of Laryngology in the Polyclinic, now the Graduate Medical School. She has five sons, all Yale graduates, two daughters, and eleven grandchildren. Two of her sons are physicians, Walter Jackson Freeman, Jr., of Washington, D. C., Professor of Neurology at St. Elizabeth's Hospital, and Norman Easton Freeman, research worker under Dr. Walter B. Cannon at Harvard Medical School.

During the war Mrs. Freeman worked in the Red Cross and later was chairman of the South Philadelphia Woman's Liberty Loan Committee, working in the Third, Fourth and Victory Loans.

Following her husband's death in 1920, she was executive secretary of the Jefferson Alumni Society for 1922 and inaugurated the Jefferson Alumni Fund. The years from March, 1923, to May, 1925, were spent in Europe for the education of her youngest children, and in January, 1926, she joined the newly organized Philadelphia Auxiliary. County secretary, vice president and president, state presi-

dent, chairman of the Philadelphia convention committee, and national president-elect, she has served a six-years apprenticeship and is now entering on her presidential duties with unbounded faith in the future of the Auxiliary.

MRS. M. P. OVERHOLSER,
Chairman Press and Publicity.

TRUTH ABOUT MEDICINES

UNITED FRUIT COMPANY ADVERTISING CAMPAIGN FOR BANANAS (United Fruit Company, Boston, importers; Fruit Dispatch Company, Boston, distributors).—Fresh bananas imported from Jamaica, Honduras, Colombia, Canary Islands, Mexico, Panama, Cuba, British Honduras, Hawaiian Islands and Guatemala. The following statements used as a basis of claims in promotion of bananas have been accepted: The banana is available at all seasons. Ripe bananas, or if cooked when partially ripe, are readily digestible even by infants and are valuable for modifying infant milk formulas because of the unique combination of readily assimilable sugars and vitamin C and are an aid against constipation. The vitamin and high carbohydrate content makes the banana a valuable supplement to milk, the mixture being a well balanced food. The carbohydrate contributes materially to the food energy value of mixtures of leafy vegetables and fruits. The final products of metabolism of the banana in the body are alkaline.

DROMEDARY PIMIENTOS (The Hills Brothers Company, Florida).—Canned or glass packed pimiento pods with added dilute salt brine. They are claimed to be canned pimiento pods of good quality.

PIXIE STRAINED PEAS (Fruit Belt Preserving Company, East Williamson, N. Y.).—Canned, sieved peas containing in large measure the mineral and vitamin content of the raw peas used; contains a small amount of added salt. This product is recommended for infants, children, convalescents and special diets.

GOLD MEDAL CAKE FLOUR (Gold Medal Foods, Inc., Minneapolis).—A "short patent" soft red winter or other soft wheat cake flour, matured with Beta-chloral (chlorine and nitrosyl chloride) under U. S. Patent 1,096,480. It is claimed to be a good quality cake flour especially adapted for cake baking in the home.

KEW BEE BREAD (Central Florida) (Central Florida Bakeries, Inc., Gainesville, Fla.).—A white bread made by the sponge dough method. It is claimed to be a bread of good quality.

PABST PASTEURIZED PROCESS CHEESE (Brick Blended with American) (Pabst Corporation, Milwaukee).—A pasteurized blend of process brick and process American cheese containing disodium and trisodium phosphates as emulsifiers and salt. It is recommended for all the uses of ordinary cheese. (Jour. A. M. A., December 19, 1931, p. 1890.)

DIAMOND BREAD (Mason City Baking Company, Mason City, Iowa).—A white bread made by the sponge dough method. It is claimed to be a bread of good quality.

PIXIE STRAINED VEGETABLE SOUP (Fruit Belt Preserving Company, East Williamson, N. Y.).—Canned vegetable soup of sieved carrots, peas, celery, tomatoes, spinach, potatoes and onions, containing in large measure the mineral and vitamin content of the raw materials used; contains a small amount of added salt. This soup is recommended for infants, children, convalescents and special diets. (Jour. A. M. A., December 26, 1931, p. 1967.)

BOOK REVIEWS

AN INTRODUCTION TO DERMATOLOGY. By Richard L. Sutton, M.D., Sc.D., LL.D., F.R.S. (Edin.) Professor of Diseases of the Skin, University of Kansas School of Medicine, and Richard L. Sutton, Jr., A.M., M.D., Visiting Dermatologist to the Kansas City General Hospital. With 183 illustrations. St. Louis: The C. V. Mosby Company. 1932. Price \$5.00.

This book should prove of value to the undergraduate student and general practitioner. It is concise and to the point. The style and set-up of the book is much the same as the larger edition by the Senior Sutton. The text is well illustrated with excellent pictures. The subject of treatment has been handled in a thorough manner. It is up-to-date with the modern and accepted methods. G. V. S.

SURGERY. With Special Reference to Podiatry. By Edward Adams, M.D., Professor of Surgery, The First Institute of Podiatry of New York. New York: International Journal of Surgery Co. 1932.

In this book of 439 pages the author covers much of surgery. He touches upon bacteriology, pathology, laboratory technic and some fields of general surgery in addition to the surgery of the extremities and joints, including fractures. There is much useful and accurate information for a trained medical man. The book does not seem suitable for a student, or one who is not well trained because the subjects are treated in a sketchy way, and the student might be led to believe that diagnosis and treatment are very simple. The importance of syphilis does not seem to be sufficiently stressed, and in tuberculosis of the joints there is not sufficient stress on the seriousness of the condition, the duration of the disease and the long time required in treatment. The book would be more useful if it were illustrated. A. O'R.

SURGERY OF THE CHEST. By George F. Straub, M.D., F.A.C.S. With three hundred and forty-one illustrations including sixty-eight color plates. Charles C. Thomas, Springfield, Illinois. 1932. Price \$10.50.

Since the only other modern book on surgery of the chest in the English language is that of Lillenthal's, which is now several years old, the appearance of this book by Dr. Straub fulfills a want. The first chapter, entitled "Glimpses Into the History of Thoracic Surgery," is one which will be interesting to anybody because it presents a bird's-eye view of the rapid developments which have taken place in this comparatively new field of surgical attack. The rest of the book is largely taken up with detailed descriptions of different operative procedures. It is perhaps somewhat unfortunate that the author has not gone into a more extensive discussion of the indications for and the comparative values of many of the operations which are described. In most works on surgery nowadays one expects to find a reasonably adequate presentation of the pathology involved, particularly in a monograph devoted to a special field. The lack of an adequate consideration of the pathological features of the various diseases mentioned in Dr. Straub's book will be a disappointment to many readers. However, as a textbook of operative surgery for thoracic conditions the

book is good. Most of the descriptions of the operations are well done and there are many illustrations in the nature of diagrams drawn by the author which help materially to clarify the descriptions in the text.

It is unfortunate, however, that in a book which has so many good features there should be some striking faults. The reviewer would consider, for example, that the author's conception of the treatment of shock and of hemorrhage after operation as given on pages 234 and 235 is hardly in line with modern surgical custom. Still more astonishing, however, is the discussion on the treatment of empyema, both acute and chronic. The recommendation of the author to treat the most severe form of virulent streptococcal empyema by "early and wide opening of the pleural cavity with resection of from two to four ribs" is entirely out of line with current opinion based on the experiences of the United States Army Empyema Commission and the experiences gained in many cases in civil life. Again, the important principles concerned in the treatment of chronic empyema are very inadequately presented. There are other statements also to which the reviewer would make serious objection. For example, the author states that there is "a striking facilitation of cough after paralysis of the diaphragm" (page 190). Although in some patients an apparent facilitation of cough is noticed there are many others in whom the act of coughing is made much more difficult. Again, also, the reviewer could hardly agree with the author's recommendation that gastrostomy should be performed before operation on pulsion diverticula of the pharynx. It is unnecessary to call attention to some other recommendations which are out of line with the opinion of most of those who are performing thoracic surgery at the present time.

E. A. G.

NEW AND NONOFFICIAL REMEDIES, 1932, containing descriptions of the articles which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association on Jan. 1, 1932. Cloth. Price, postpaid, \$1.50. Pp. 492. lvi. Chicago: American Medical Association.

The recognition of a preparation for inclusion in this book singles it out from the host of new products of the pharmaceutical manufacturers as being a worthwhile addition to the existing armamentarium of the practicing physician. To be thus distinguished it must be shown, under the impartial scrutiny of the carefully chosen group which is the Council on Pharmacy and Chemistry, that it has acceptable evidence of therapeutic usefulness and that it is marketed in accordance with the honesty and straightforwardness envisaged by the excellent Rules which have been the outgrowth of the Council's quarter century experience in appraising the merits of new drugs.

In accordance with its custom of keeping the annual editions of New and Nonofficial Remedies in the forefront of current medical thought, the Council offers in this volume the newly revised articles: Barbitol and Barbitol Compounds; Fibrin Ferments and Thromboplastic Substances; Liver and Stomach Preparations; Mercury and Mercury Compounds; and Ovary. Perhaps the most noteworthy new preparations admitted are: nupercaine-Ciba, a local anesthetic; pentobarbital sodium, a barbituric acid derivative; and iopax, a new preparation for roentgenologic use. All of the ovary preparations formerly described are omitted and none of the new

standardized preparations are described, although the names Theelin and Theelol are recognized in the revised general article. Another change of importance is the classification of articles formerly listed as "Exempted" under the heading "Accepted But Not Described." There is the usual excellent index and the augmented Index to Proprieties Not Included in N. N. R.

MANUAL OF CLINICAL AND LABORATORY TECHNIC. By Hiram B. Weiss, A.B., M.D., F.A.C.P., Associate Professor of Medicine, College of Medicine, University of Cincinnati, Ohio, and Raphael Isaacs, A.M., M.D., F.A.C.P., Associate Professor of Medicine, Assistant Director of the Thomas Henry Simson Memorial Institute for Medical Research, University of Michigan, Ann Arbor, Michigan. Fourth edition, reset. Philadelphia and London: W. B. Saunders Company. 1932. Price \$1.50.

The material in this handy and valuable pocket volume has been drawn from many practical sources. The compilers have succeeded admirably in presenting, in outline form, a guide for the standardization and correlation of the procedures to be followed in a systematic study of a patient. Although these directions have been collected primarily for the intern and the student, the book makes a choice reference work for the practitioner and is an excellent "memory-tickler." In addition to a good and workable "plan" for "case-taking" histories and physical examinations, essential and full details, in space-saving form, are given for all of the commoner laboratory procedures and also for many that are not used as often as they should be.

C. D. H.

HISTORY OF MEDICINE IN THE UNITED STATES. By Francis R. Packard, M.D., Editor, Annals of Medical History. 103 illustrations. Vols. I and II. New York: Paul B. Hoeber, Inc. 1931. Price \$12.00.

A history of medicine in the United States is necessarily largely the story of the growth of medical institutions and the lives of men who have influenced the medical practice and thought of their time. Dr. Packard's book, however, is more than a mere chronological history of the foundation of schools and hospitals and operations by noted surgeons; it is a reflection of the personalities of the various periods and the trends of medical beliefs and practices.

As the history of medicine is unrolled before the reader the history of America itself is told as is the interrelation of the growth of the country and of medicine.

While very few epoch-making discoveries have been made in the United States there are many developments, improvements, pioneers in medicine, epidemics, great trends in medical education, in hospital work, in legislation and in research. All are given with the reasons which brought them forth.

These two volumes are a veritable reference encyclopedia of facts and names important in medical history in the United States but they also furnish delightful reading. The make-up of the books, large type, good paper, many excerpts from references, attractive illustrations, all make reading and assimilation easy.

Whether the physician wishes a reference book on American medicine or entertaining reading, these volumes are valuable.

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E. J. GOODWIN, M.D., Editor
1023 Missouri Building, St. Louis, Mo.
Telephone, Jefferson 5261.

PUBLICATION COMMITTEE { J. C. B. DAVIS, M.D., Chairman
G. WILSE ROBINSON, M.D.
M. A. BLISS, M.D.

THE DIAGNOSIS OF CEREBELLAR DISEASE *

B. LANDIS ELLIOTT, M.D.

KANSAS CITY, MO.

The cerebellum like the thalamus is the junction point of many afferent and efferent pathways which associate it with the most diverse parts of the central and peripheral nervous systems. Damage to the cerebellum or its parts creates new conditions in the apparatus of locomotion so that movement is performed in a faulty manner. A series of typical symptoms arises having important diagnostic significance. A difficulty in cerebellar diagnosis is encountered because disease of parts of the cerebellum may produce effects similar to those produced by disease of nervous pathways running to or from these parts.

The afferent cerebellar system consists of pathways from the spinal cord, brain stem and brain. From the spinal cord the cerebellum receives Flechsig's tract, Gower's tract and fibers from the posterior roots to the cerebellum. From the brain stem come the olivocerebellar tract, vestibulocerebellar fibers and fibers from the nuclei of the vagus and trigeminus. From the cerebral cortex the cerebellum receives the frontopontine, parietopontine and temporopontine tracts.

The efferent cerebellar system begins in the cerebellar nuclei, and consists of fibers from the dentate nucleus to the red nucleus and tracts leading from the nuclei tecti fastigii, nucleus globosus and nucleus emboliformis to Deiters', Bechterew's and the triangularis nuclei.

All incoming nervous impulses reach the cerebellar cortex. The mossy fibers coming in via the restiform body convey their impulses to the granule cells, which in turn transfer them to the Purkinje cells. The climbing fibers, coming from the middle cerebellar peduncle, transfer their impulses directly to the

dendrites of the Purkinje cells. Thus the efferent cerebellar pathway begins with the Purkinje cells whose axones terminate in the cerebellar nuclei.

The impulses received by the cerebellum include afferent impulses from the muscles, joints and tendons, coming in via the proprioceptive system, and impulses from the semicircular canals of the internal ear via the vestibular nerve; and the latter are especially important.

The cerebellum as we see is a reflex apparatus. To it flow impulses from all movable parts of the body. From it spring nervous pathways to the motor nuclei of the entire locomotor apparatus. The efferent cerebellar pathways do not proceed directly to these motor nuclei, however, but to the apparatus in the brain stem, the system of the red nucleus and vestibular apparatus which influences directly the final common pathway. Thus the cerebellum influences the anterior horn cells of the spinal cord via the red nucleus.

Our knowledge of cerebellar function has been derived from ablation of the organ in animals, artificial stimulation in animals, and the clinicopathological study of cerebellar disease in man. In spite of all the investigative energy which has been devoted to this subject, we are unable to give a comprehensive and concise definition of the function of the cerebellum. There is general agreement among physiologists that it is strictly a motor organ and that its chief function is to control coordination or synergy. According to the conception of Mills and Weisenburg, synergy is the fundamental function of the cerebellum. In the performance of complex acts, muscles whose action is antagonistic to each other are associated in such a way that their combined activity carries out coordinated movements. We may conceive of the muscles as combined or associated in synergic units together throughout the body, and of the cerebellum as maintaining coordination between these synergic units as they carry out complex acts.

The role of the cerebellum is best exemplified in such activities of the motor system as

* Read at the 75th Annual Meeting of the Missouri State Medical Association, Jefferson City, May 23-26, 1932.

running, swimming, boxing, fencing, piano playing, flying an airplane, or in the highly trained movements necessary in performing other similar complicated acts.

If this power of carrying out complex movements together for the accomplishment of some definite end is interfered with or lost, certain symptoms appear which are more or less characteristic of cerebellar disease. These symptoms, which are manifested as disturbances in the motor apparatus, may all be regarded as manifestations of *asynergy*. As Weisenburg says, "*asynergy is the fundamental symptom of cerebellar disease.*"

Many names have been employed to designate the motor symptoms of cerebellar disease. Among these are *atonia*, *asthenia*, *hypotonia*, *incoordination*, *ataxia*, *discontinuity*, *dysmetria*, *hypermetria*, *disequilibrium*, and others. Many of them have been so loosely used that the meaning of the author has not always been clearly understandable. It is unnecessary to have so many descriptive terms. If one can describe the symptoms in simple English and understand something of their meaning, the exact word used to denominate each is of minor importance.

SYMPTOMATOLOGY

A useful approach to the symptomatology of cerebellar disease is to consider the symptoms of diffuse cerebellar disease with atrophy of the cortex and destruction of Purkinje cells. This condition destroys the functional efficiency of the organ and usually produces disturbances in coordination of the voluntary muscular system, expressed through cerebellar *ataxia*, speech disturbance and *nystagmus*. In diffuse cerebellar atrophy the symptoms can be viewed as due purely to absence of cerebellar function, while in tumors and cysts of the cerebellum *hydrocephalus* and pressure on the medulla and neighboring structures obscure the clinical picture and lessen its value for illuminating the cerebellar functions.

The gait in cerebellar disease has been classically described as a *reeling gait*. The disturbance in gait is really due to the fact that the trunk moves first and then the legs follow it. In pronounced form the gait is a great deal like that seen in alcoholic intoxication.

If the disturbance is confined to the centers controlling the upper limbs there is no disturbance in gait or station. If the centers controlling the trunk and lower extremities are involved the patient will tend to fall forward, backward or to one side, or to walk to one side or the other.

If there is *asynergy* in the upper limbs there may be an intention tremor or the movements

may be made quickly and the patient may overshoot the mark. The latter has been named *dysmetria* or *hypermetria*.

Weakness and fatigability, or *asthenia*, are the effects of *asynergy*. Exhaustion results from attempts to perform movements which are not being properly directed and controlled.

Asynergy in the muscles concerned with speech produces the well known "*scanning*" speech in which the patient utters words in a hesitating, jerky or explosive manner.

The inability to perform reverse movements quickly and easily is known as *adiadokokinesis*. To test it we have the patient pronate and supinate the hands, or try to flex and extend the fingers quickly, as in piano playing. This symptom may occur in disorders of the corpus striatum as well as in cerebellar disease.

Although absent in many cases of cerebellar disease and often present when the cerebellum itself is not damaged, *nystagmus* may be of great diagnostic significance. It must be fairly well marked to be of clinical importance. The slight *nystagmoid* movements which so often occur when the patient looks far to the side are not indicative of cerebellar disease. If *nystagmus* is only brought out by having the patient look to one side or the other it is more likely to mean involvement of the fibers of the vestibular apparatus outside of the cerebellum, while if it is present spontaneously it is more likely to be an indication of disease in the cerebellum itself.

The *nystagmus* associated with cerebellar lesions is increased on looking to the side of the lesion. There is usually a quick component toward the side to which the patient is looking, and a slower return toward the other side. If the *nystagmus* is vertical, it usually is due to involvement of the brain stem. Sachs suggests that *nystagmus* does not occur in cerebellar disease unless the nuclei are involved while involvement of the cortex alone can produce manifestations of *asynergy* and *adiadokokinesis*.

Our knowledge of localization of function in the cerebellum has advanced far enough to enable us to say in certain cases that not only is there a lesion in the cerebellum, but it is in a definite part of the organ. Roughly, each cerebellar hemisphere controls the musculature of its own side of the body, while the *vermis* controls the muscles of the trunk. Destruction of the posterior inferior part of the *vermis* causes the patient to fall backward, while damage to the superior anterior portion causes him to fall forward. With a lesion in the hemisphere, the patient will tend to fall or walk toward the side of the lesion. It is important to determine if the patient falls, tends

to fall, or feels as if he were going to fall in a given direction, as this may assist in determining what portion of the cerebellum is diseased. Sometimes the patient has a subjective sensation that the floor is slanting toward the side of the lesion. When the vermis is involved there may be a sensation of falling backward or forward. Such a sensation of insecurity is caused by a disturbed sense of equilibration and constitutes vertigo.

In certain cases of cerebellar disease there is a peculiar attitude of the head, the patient holding his head inclined toward the side of the lesion with the chin tilted slightly toward the opposite side. This was ascribed by Horsley to involvement of the superior cerebellar peduncle, by Cushing to an attempt by the patient to ease pain. Stenvers maintains that the patient will hold his head backward in cases of supratentorial tumor, forward in certain cases of subtentorial tumor in order to favor the escape of cerebrospinal fluid from the ventricular system and thereby relieve internal hydrocephalus and prevent headache. In support of Horsley's explanation for the attitude of flexion to one side described above, Sachs cites one of his cases in which this attitude persisted five years after operation in spite of the fact that the patient was well in every other respect. Abnormal attitudes of the head occur but their explanation remains in controversy.

Certain phenomena, such as Jackson's "cerebellar fits," Babinski's cerebellar catalepsy, etc., occur so rarely that they are of limited value only in diagnosis.

The vestibular or Bárány tests may be of assistance in cases in which after careful examination there still remains some uncertainty about the diagnosis. A normal individual can touch a mark with one of his limbs and come back again to this mark with his eyes closed, while an individual with cerebellar disease may not be able to do so. This inability to again hit the mark is called past-pointing. Past-pointing can be induced in a normal individual by stimulating the vestibular apparatus, either by douching the ears with hot or cold water or by turning him rapidly to the right or left. Stimulation of the vestibular apparatus causes dizziness, nystagmus, past-pointing and nausea. If one or more of these fails to appear after the semicircular canals have been stimulated, there is a lesion somewhere in the vestibular apparatus or pathways. Impulses from the vestibular portion of the acoustic nerve reach Deiters' nucleus and then proceed to the cerebellum. Fibers from the vertical canals ascend into the pons and then enter the cerebellum by way of the middle cerebellar peduncle, while those from the horizontal canals reach

the cerebellum via the restiform body. When one or more of the semicircular canals fails to function the reactions obtained from the patient are abnormal. If the vestibular apparatus on one side is completely out of action, douching that ear will produce none of the above mentioned reactions, no matter how vigorously the stimulation is applied. Should stimulation of one canal produce nystagmus but no past-pointing we can conclude that there is a lesion in the tracts passing into the cerebellum.

These tests are sometimes helpful but at times the results are misleading and it must always be remembered that the history and clinical examination are the things of greatest importance. No single test can displace these; but on the other hand they must be considered

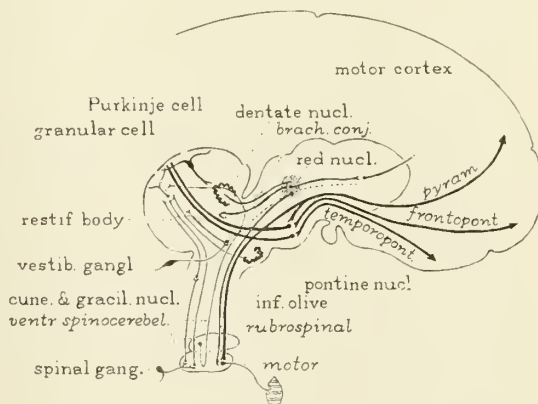


Fig. 1. Principal connections of the cerebellum. (Adapted by A. J. Welch and B. Landis Elliott, from Spiegel and Sommer in *Ophthalmologie und Otoneurologie*.)

as part of the evidence and carefully evaluated. Patients with cerebellar tumor are often very sick and surgeons are reluctant to subject them to the disturbance incident to these tests unless there is a distinct probability that something will be gained.

DIAGNOSIS

Although the cerebellum is subject to atrophies, infections, hemorrhages, etc., the most important practical diagnostic problems arise in connection with tumors and abscesses. In these cases the cerebellar syndrome and the pressure syndrome coexist. Sometimes when the lesion advances very slowly the characteristic cerebellar phenomena fail to appear; the cerebral hemispheres may compensate for the loss of cerebellar activity.

While usually in brain tumor the site of the headache is an unreliable localizing sign, in cerebellar tumors it is characteristically in the occipital region, in the neck and even down into the back.

Pressure may affect nearby nervous struc-

tures. Among these is the trigeminus nucleus, and loss of the corneal reflex may be an early sign. This is apt to become more pronounced when the patient lies on one side so that the tumor is above. The seventh and eighth cranial nerves may be affected, and pressure on the medulla may cause slight spastic pareses with disturbances in the reflexes, pathological reflexes, absent abdominals, etc.

In tumor of the acoustic nerve the clinical picture begins with acoustic and facial symptoms. In these cases the symptoms appear in reverse order to their appearance in cases of cerebellar tumor, the signs of involvement of the facial and acoustic nerves coming first while the characteristic cerebellar syndrome comes later. Slight pressure on the facial nerve may cause slight spasm, or a combination of spasm and paralysis, so that the facial musculature responds better to involuntary or emotional stimuli than to voluntary.

So far as the attitude of the head is concerned, when the patient is in bed he attempts to lie so that the tumor is below as in this position pressure on nearby structures is diminished and his comfort is greater.

Meningitis serosa circumscripta (adhesive arachnoiditis) may develop from arachnoidal adhesions in connection with infectious disease or injury. A differential diagnosis from tumor may be impossible, and in fact the indication for operation is the same as in tumor.

When the cerebellar syndrome is present in its characteristic features it may be easy to say that there is a lesion in the cerebellum, but there are lesions accompanied by few of these symptoms and in them a knowledge of the life history and characteristics of the lesion is more important than a knowledge of cerebellar symptomatology. Such lesions are the mid-line cerebellar tumors of childhood. Here, nystagmus and asynergy as well as other cerebellar symptoms may be mostly or wholly lacking. One must base his diagnosis on the fact that the majority of brain tumors in children are in the cerebellum, and on the prominence of occipital headache, suboccipital pain and tenderness, rigidity of the neck, attitude of the head and the early occurrence of vomiting and choked disk. Ventriculograms may aid materially in a decision. The finding of a dilatation of the whole ventricular system characteristic of an internal hydrocephalus is sometimes of great importance, fixing the lesion in the posterior cranial fossa.

It has happened numerous times that the posterior cranial fossa has been opened in cases where there was a tumor in the frontal lobe. Frontal lobe tumors sometimes cause ataxia, asynergy, nystagmus and other cere-

bellar symptoms. These symptoms are probably due to disturbances in the frontopontocerebellar pathways brought about by the pressure exerted by the tumor. In frontal lobe tumors there are often mental symptoms, there may be pyramidal tract signs on the side opposite the tumor with loss of abdominal reflexes on that side and the ataxia occurs on the side opposite the tumor. Frontal tumor may give rise to choked disk later in its development.

With tumor in the cerebellum there is apt to be occipital pain and headache, choked disk appears early and the ataxia is on the same side as the tumor. In doubtful cases ventriculography helps to avoid error.

When the cerebellar syndrome occurs in the presence of purulent ear disease one must think of brain abscess. Eagleton found 99 out of 117 cerebellar abscesses to have an otitic background. Otitic cerebellar abscess usually comes into question when there are ear diseases like suppurative labyrinthitis or some other process in the petrous part of the temporal bone. Such suppuration may find its way through to the posterior part of the petrous bone which forms the anterior wall of the posterior cranial fossa. If abscess arises in this way it will be in the anterior part of the cerebellum. Abscess may also come from the sphenoid sinus or may be metastatic or traumatic.

Differential diagnosis is made more difficult because a series of cerebellar symptoms also occurs in labyrinthitis. Among these symptoms are vertigo, disturbance in coordination, nystagmus, past-pointing, etc. Symptoms of increased intracranial pressure, such as choked disk, speak for brain abscess.

When patients come to us in an advanced stage of the disease it is often difficult to search out the earliest symptoms and reconstruct the gradual development of the disease from the beginning, but it is only a faultless history, which considers the very first manifestations, that can give us the clue leading out from the maze of symptoms to a correct diagnosis.

1636 Professional Building.

DISCUSSION

DR. WM. T. COUGHLIN, St. Louis: I am very glad to have had the opportunity to listen to this paper. I think it is very fine.

The question has been asked me, "Why make a diagnosis of cerebellar tumor, anyhow? You cannot do them any good." As a matter of fact, a tumor removed from the cerebellum is less likely to leave a "hangover" than one of proportionate size removed from the cerebrum. I have two cerebellar tumor cases restored entirely to normal, and, while the incidence of cerebral tumors is higher and the mortality at least as high (if not higher), the return to normal has not been so complete in any of them.

There are a few things that strike me as being

very commonly present when the tumor is below the tentorium; namely, instability of gait and station, incoordination, early headache and choked disk. The patients are unable to stand properly or to walk properly. They usually veer toward the side on which the tumor is situated or fall forward or backward when it is in the midline. It is not so important to localize the tumor preoperatively, because at operation American surgeons uncover both hemispheres and then if a tumor is present it can be positively located very quickly. If the patient can make the finger-to-nose and heel-to-knee tests successfully, most likely his hemispheres are intact. If he has normal pass-pointing and no nystagmus after hot and cold water ear douching, it is not likely that he has a tumor in the cerebellopontine angle. If the tumor is left alone for a time it interferes with the strength of the patient. An ordinary lay person can understand you when you say the patient is weak. It takes an extraordinarily well educated man to understand, sometimes, the very unusual English that is used to express this fact.

A tumor in the midline may develop to large size without giving any symptoms. Tumors 4 or 5 cm. in diameter have occurred without symptoms. I removed such a tumor from the fourth ventricle in September, the patient having quit work because of weakness and failing vision about July 1. The tumor was about $2\frac{1}{2}$ inches by $1\frac{1}{2}$ inches.

Of course, the longer a tumor is left in situ the larger it grows and the higher becomes the tension inside the head. Not only will it encroach on the brain by its bulk but it usually soon brings hydrocephalus in the brain above. The brain accommodates itself to the high intracranial pressure because this pressure rises very gradually. The brain sometimes carries on its work fairly well until the surgeon comes along and suddenly relieves the pressure. The brain cells do not accommodate themselves to the sudden change in tension and the brain goes into a condition which surgeons dread most of all—edema. For in spite of all the many advances in surgery, edema of the brain does still take its toll after operations on the brain. There is no known way of preventing it entirely although we have learned how to diminish its frequency.

It is highly important, then, that the diagnosis of subtentorial tumor be made early and it is highly important that this diagnosis be correct, for if a patient with subtentorial tumor be operated upon for tumor above the tentorium very likely such a patient will soon die. The converse also is true. It is important also to know that it is not in the pons and medulla. This cannot always be known with certainty, but usually such patients have some kind of paralysis as an early sign, whereas paralysis due to other subtentorial tumors usually comes late in the disease.

DR. FRANCIS M. BARNES, JR., St. Louis: I think it is perfectly obvious that a discussion of the functions of the cerebellum and the localization of these functions, a subject that has required extensive study over a period of time, is difficult if not impossible in the short time allotted to the speaker.

I believe the diagrams which Dr. Elliott has so well selected and placed before you indicate well enough the complexity and intricacy of convolutions within the cerebellum and the effect on different parts of the nervous system. It is too bad that most of these diagrams cannot be studied in such clear-cut fashion as they are represented before you. Our experience shows us that that is rather infrequently

the case. It is easy to prepare diagrams and to compare these various pathways and symptomatology, but it is far from easy to determine all these things in a case which you see clinically. So many of the cerebellar symptoms are masked and misleading because of the fundamental fact that lesions in any part of these various tracts and pathways may give rise to symptoms that may be referred directly to lesions of the cerebellum itself.

The Bárány tests to which Dr. Elliott referred have been received with great favor in the past and have helped a little bit, but sometimes are negative and sometimes positively misleading. I think it all goes to show that we are not dealing with one simplified proposition as far as diagnosis is concerned, but rather that we have to consider the whole individual, the earliest manifestations of the disease, the development and course, as well as a complete and thorough examination of that individual, not trying to base our diagnosis upon any one or other clinical element, sign or symptom.

I think the condition that Dr. Elliott has taken up is one of great complexity, and has been presented very well.

DR. E. LEE MYERS, St. Louis: For many years I have wished to hear a paper from the neurological standpoint on the subject cerebellar abscess as it has appeared to me that these cases are unusually hard to diagnose even when the case has been under the careful observation of both the otolaryngologist and the neurologist. I call to mind eight cases, the mortality being seven cases. In the one that recovered the diagnosis was made quite by accident on the operating table while doing a mastoid.

Permit me to recite a case. A young female child had had an adenoid operation and antrum irrigation at the same sitting and done in a manner that absolutely precluded a blocking of the nasopharyngeal region. She developed double otitis some few days later. A mastoid was done on one side and then on the other. Typical symptoms of lateral sinus thrombosis developed and we felt justified after consultation in tying the jugular on the right side. At this time there was a slight nystagmus to the right side. An enlargement of the liver margin complicated the matter and it was thought we had a metastatic abscess in the liver. An up and down temperature for some time made us feel there was a possibility of an infection of the lateral sinus on the left so this side was opened for a possible mural thrombus. During the time the child was in the hospital an ophthalmologist found choked disks on one side of 6 diopters and on the other side 5 but no disturbance in vision. There were no symptoms that could definitely point to a cerebellar abscess. She was watched at regular intervals by one of our celebrated neurological consultants. This child went back to school and was practically normal for over a year but finally was sent into our service with projectile vomiting and crying, with severe pain and a severe oposthotonic position. At this point we were fortunate in having the advice of two neurological surgeons who frankly admitted that it was difficult to say just where to operate. Bearing in mind that we had found some necrotic bone in the right occipital region adjacent to the mastoid I was able to persuade Dr. W. T. Coughlin to operate, which he did with some reluctance. He found a cerebellar abscess on the right side and it appeared that the child would get well, but unfortunately a meningitis some two months after the operation carried the child off. From this description al-

though brief, it is easy to see that sufficient advice was had and yet the diagnosis of cerebellar abscess was not made early in the disease. It appears to me that the more of this work that one does the less apt he is to feel confident of an early diagnosis.

DR. B. LANDIS ELLIOTT, closing: I wish to thank those who discussed my paper very much.

As Dr. Coughlin says, there is a great advantage in being able to diagnose tumor of the cerebellum because the prognosis is not absolutely bad and is constantly getting better with modern methods that neurologic surgeons use. There are a great many patients operated on for cerebellar tumor and other conditions, such as adhesive arachnoiditis, who get well. I have at least three who have been operated on in five years who have gotten well.

In abscess the difficulties are greater and the prognosis worse. Statistics show that the mortality in cerebellar abscess is very high.

As Dr. Myers says, the diagnosis is difficult to make sometimes. We do not get all the signs we read about in textbooks—sometimes one and maybe not that. If there is suppuration and the patient develops severe vomiting and choked disk you have reason to suspect abscess. Then, if we can pick up one definite cerebellar sign, we have a right to say it is cerebellar.

Dr. Coughlin referred to the difficulty of differentiating between supratentorial and infratentorial lesions. That is not so true of hemorrhage as of other lesions. When a tumor is in the frontal lobe the ataxia is on the opposite side to the tumor. The patient may have mental symptoms or may not have. Vomiting and choked disk do not occur so early as in lesions of the cerebellum itself. In doubtful cases ventriculography should give help. Dr. Glennon told us today of a case in which the patient held the head down upon the chest. The patient suddenly died and autopsy revealed a tumor of the cerebellum. Just what caused the head attitude is not known. Some say the head is held down when the tumor is below the tentorium and backwards when above. But there are many exceptions and it is a matter of controversy.

I have not had time to cover the subject adequately, but I wanted to call attention to some of the things that help us and to some of the difficulties.

RECOGNITION OF CANCER OF UTERUS IN ITS EARLIER STAGES

FRED EMMERT, St. Louis (Journal A. M. A.), states that the importance of timely recognition and the removal of precancerous lesions in relation to malignant growths of the cervix uteri is generally accepted. Among these precancerous lesions, however, leukoplakia of the cervix has not yet received the widespread attention it deserves. This has been due to a large extent to the fact that leukoplakia easily escapes inspection with the naked eye. Hinselmann has designed an apparatus called the colposcope, which permits of ready detection of even the slightest alterations of the vaginal portion and in a large number of publications he has added extensively to the knowledge and appreciation of the nature and significance of leukoplakias. His contentions have been fully confirmed by a case observed and described by the author, which shows conclusively that the use of the colposcope renders possible the diagnosis of the earliest stages of cancer of the cervix.

HORMONE CONTROL OF CHANGES IN THE ENDOMETRIUM DURING THE MENSTRUAL CYCLE *†

EDGAR ALLEN, Ph.D.

COLUMBIA, MO.

The uterus of woman has commanded the attention of investigators since the beginnings of biological studies because of its two outstanding functions, namely; its role in providing an environment for the development of the embryos of mammals, and its monthly or menstrual hemorrhages. The latter function has resulted in thorough histologic studies of the changes which occur in the endometrium, the mucous membrane which lines the uterus. Careful descriptions of all stages during the cycle have been available for some fifteen years.

Within the past five years the changes which occur in the endometrium have been explained and reproduced experimentally by replacing ovarian function with injections of ovarian hormones. Since this control has been worked out experimentally a new foundation is provided for the interpretation of the changes in the endometrium based upon the hormone control.

At least three distinct hormones have been extracted from the ovaries and their reactions described. The first, the hormone from the follicles, is responsible for periodic waves of growth which occur in the accessory genital organs, the vagina, uterus, tubes, and mammary glands, and also for the accentuation of the female secondary sexual characters. This hormone is responsible both for the gradual development which results in the attainment of sexual maturity and for the more rapid periodic growth waves to which the female genital organs are subjected during adult life (Allen and Doisy, 1923, 1924, and others). This active substance, the follicular hormone, or "theelin," induces mitotic cell division, especially in the epithelial tissues, secretion by the glandular tissues, and also takes part in the regulation of amplitude and rate of contraction of uterine and tubal musculature.

These reactions were described and illustrated by lantern slides as they occur in ovariectomized rats. Experimental estrous periods in the ovariectomized rat induced by injections of hormone serve as the unit of measurement of this active substance. A test can be completed in two days. This proved an especially good animal reaction for use as a

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† From the Department of Anatomy, University of Missouri School of Medicine.

unit of measurement in the chemical fractionation of extracts and in standardization of hormone prepared for therapeutic use. Using this test it has been possible to crystallize this follicular hormone which has been named "theelin" (Doisy, Veler and Thayer, 1929).

The reactions of monkeys to injections of theelin were also described. The monkey was used as a test animal because it has menstrual periods quite exactly similar to those of woman. In addition, the reddening and swelling of the skin of the buttocks and thighs, which is a secondary sex character dependent on the action of this ovarian hormone, is present in the monkey and serves as a good indicator of the successful experiment.

The object of this investigation was to produce experimental menstrual cycles by a substitution therapy with ovarian hormones. The first necessity was double ovariectomy. Following this operation, the reddening and swelling of the "sexual skin" completely disappeared, and the skin became colorless and tight. The ovaries from all animals were sectioned serially and the structures present compared with the previous menstrual histories. In several cases corpora lutea were found in the ovaries to correspond to several preceding cycles. In others no corpora lutea were to be found; instead, varying numbers of follicles of different sizes, some normal and others undergoing atresia. Since the animals from which the latter type of ovaries were removed experienced normal menstrual cycles, the obvious conclusion is that menstruation may occur whether or not the follicles fully mature and ovulate. Therefore, the hormones of the corpus luteum are not essential to the endocrine mechanism of menstruation.

After periods varying from three to six weeks had elapsed following ovariectomy to permit castrate atrophy, injections of theelin were begun into these monkeys. Three injections daily were given at eight-hour intervals.

By the end of the first week the "sexual skin" began to redden and by the end of the second week had reached a maximum color. In most cases this area became swollen due to the accumulation of a mucous substance in the subcutaneous tissues. This might be called an edema, except that the accumulation was mucous rather than watery. After the full amount of reddening and swelling was obtained the injections were stopped. There followed a latent period of from three to five days and then menstrual hemorrhage began. The amount and duration of the flow was within the range of the normal menstrual period. These results have since been con-

firmed by Morrell, Powers and Varley (1930) and by Saiki (1932). Morrell and his co-workers have proposed that theelin be standardized in monkey rather than in rat units for therapeutic use in women.

At various stages in the injection experiments and during the few days following, animals were killed and histologic study made of the genital organs. Illustrations of these conditions may be found in papers by Allen (1927, 1928).

As described for rodents, the action of theelin induced in monkeys a remarkably rapid wave of growth in the vaginal wall, the uterus, including both fundus and cervix, the tubes and the mammary glands. The vaginal wall was thickened from some ten or fifteen layers to from sixty to eighty layers of epithelial cells, the outer layers of which became partly cornified. The cervix was much enlarged and the cervical glands much hypertrophied. The contrast when compared with atrophic glands of ovariectomized control animals was striking. The uterine glands were also greatly elongated and had begun to twist and coil. Histologic evidences of the secretion were apparent both in the surface epithelium and the glands. An extremely high incidence of dividing cells was common to all these regions, especially in the epithelial tissues.

The uterine tubes lose their ciliation over considerable areas following ovariectomy; a considerable amount of recovery from castrate atrophy was induced by injections of theelin.

Sections of endometrium during the first five days following cessation of injections indicate the development of an edematous condition, the formation of subepithelial hematoma, and then desquamation of surface areas with hemorrhage into the lumen of the uterus. The changes characteristic of these experimental menstrual periods which follow cessation of injections of theelin are comparable to the normal menstrual changes.

But these experimental menstrual periods just described occur from an endometrium which has attained only the interval stage of transformation. To obtain full premenstrual transformation characterized by the extreme twisting and hypertrophy of the uterine glands, it is necessary to follow injections of theelin by injections of a corpus luteum hormone, progestin (Corner and Allen, 1929), or corporin (Hisaw and Leonard, 1930). This has been done experimentally in both rabbits and monkeys. In the former it has been possible to carry the rabbit through the gestation period to normal parturition (Corner and Allen). The premenstrual changes in the endometrium of the monkey induced by the succes-

sive action of theelin and corporin (Hisaw) are quite comparable to the normal changes.

From the above experiments, therefore, the following conclusions may be drawn:

1. The follicular hormone, theelin, is responsible for the waves of growth which run through the accessory genital organs, especially the endometrium of the uterus of primates.

2. After this hyperplastic condition has been induced, a discontinuance or decrease in amount of theelin is followed (after a short latent period) by the onset of an experimental menstruation.

3. Unless the theelin treatment is followed by treatment with the corpus luteum hormone, progesterin or corporin, the hemorrhage occurs from an interval type of endometrium. The latter hormone must follow theelin to induce the premenstrual transformation, especially of the glands.

4. The histologic changes which precede the actual onset of hemorrhage are similar in their essential characteristics to those of normal menstruation.

In these experiments one mammary gland was usually removed after double ovariectomy and before injections were begun to serve as a control. The other mammary gland removed at the end of the period of injections showed a great deal of growth both in the epithelium covering the nipples and in the ducts and alveoli of the glandular tree. To obtain full development of the alveoli of the mammary glands, however, it is necessary to follow injections of theelin with injections of corporin or progesterin.

A third ovarian hormone, "relaxin," also from the corpus luteum, has been demonstrated to have a specific action in the guinea pig. To be effective, relaxin must be preceded by theelin. Its effect is to induce relaxation in the pelvic ligaments to enlarge the birth canal at parturition (Hisaw, 1929). It is interesting in this connection to note that a similar purpose is accomplished by theelin in the pocket gopher which has an extremely flat pelvis. Theelin actually causes the resorption of the symphysis pubis (Hisaw), leaving the pelvic girdle open in front and thus enlarging the birth canal.

There are many other interesting reactions which have been demonstrated for ovarian hormones. The high theelin content of the placenta, blood and urine during pregnancy is especially noteworthy. Since menstruation occurs in experimental animals only following removal or decrease in amount of theelin, it seems very logical that the continual presence of this hormone in the circulation during

pregnancy may partly account for the absence of menstruation during pregnancy.

Missouri University School of Medicine.

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THORACOPLASTY IN PULMONARY TUBERCULOSIS: GENERAL AND ECONOMIC CONSIDERATIONS

Kennon Dunham and Esie Asbury, Cincinnati (*Journal A. M. A.*, July 30, 1932), point out that thoracoplasty and phrenicectomy are established adjuncts to the treatment in selected cases of pulmonary tuberculosis. Positive sputum is the chief indication for thoracoplasty in cases otherwise suitable. Continuation of positive sputum after thoracoplasty indicates need of further collapse. The sputum may continue positive after complete collapse or become negative with incomplete collapse. In any case, the only criterion of a successful thoracoplasty is a living patient with continuously negative sputum. The authors suggest a plan to give the benefit of surgical procedures to both private and indigent patients with pulmonary tuberculosis, and stress the economic value of thoracoplasty. They make a plea for further study of the effort syndrome in prospective thoracoplasty patients and of the cause of the occasional operative death within the first forty-eight hours. Cardiac damage and emphysema of the good lung should be estimated before operation. The Wilms-Sauerbruch technic of paravertebral thoracoplasty in two stages is recommended, removing portions of ten ribs, including the first, as close to the transverse processes as possible, taking the lower ribs at the first stage. The use of acacia instead of the transfusion of blood is recommended to combat shock because of its safety, reliability and cheapness.

NEPHRITIS IN PREGNANCY *

EDWARD J. STIEGLITZ, M.D.

CHICAGO

Nephritis is a frequent and serious complication in pregnancy. Pregnancy is similarly a grave complication in nephritic patients. To understand and evaluate the complexities of the problem of nephritis in pregnancy one must consider the question from both these points of view.

The exact incidence of nephritis during pregnancy is uncertain, largely because of a distressing confusion in terminology of what constitutes renal disease in pregnancy. From many reports it may be concluded, however, that some form of renal disease with functional impairment (chronic nephritis, preeclamptic intoxication, nephrosis, etc.) occurs in 3 per cent or more of all pregnancies. The fact that about one fifth of all maternal deaths during gestation may be attributed to intoxications involving the kidney or their sequelae, emphasizes the grave importance of the problem. Of greatest practical clinical interest, perhaps, are the questions of etiology, classification and therapy. These, together with some of the major clinical phenomena of renal injury, we wish to discuss this evening.

ETIOLOGY

Nephritis, as any other disease, may pre-exist prior to pregnancy and be acutely exacerbated by gestation; or it may arise at any time during pregnancy. Pregnancy *per se* may be the major source of intoxication responsible for renal injury, or nephritis may result from any of the many etiologic factors as in the nonpregnant. The pregnant state confers no immunity upon the mother against renal damage; rather does pregnancy markedly predispose to such injury. As in the nonpregnant, the etiology of nephritis is multiple and usually consists of several superimposed synergistic factors. In this respect the problem of nephritis closely parallels that of hypertensive arterial disease.¹ There is no uniform or universal etiologic agent responsible for nephritis; each individual clinical problem requires careful analytical search to evaluate properly the relative significance of the many possible causative factors.

Pregnancy reduces the margin of renal reserve and thus predisposes to renal injury. The burden of the physiologic work of the kidneys is augmented throughout gestation.

The basal metabolic rate increases in pregnancy and with the accelerated catabolism a greater amount of metabolic debris requires elimination. To this is added the burden of secreting the metabolic debris of the rapidly growing fetus, whose anabolic and catabolic processes are both rapid. It is probable that some of the products of fetal metabolism are foreign to the maternal tissues and create anaphylactic reactions in the renal structures.^{2,3} Anemia is a frequent phenomenon in pregnancy and greatly augments the renal burden through inadequacy of oxygen supply to the hard working secreting renal parenchyma. Interference with the renal circulation as a result of hypertension,¹ compression by the enlarging uterine mass, or capillary injury, further impairs the renal efficiency. It has been repeatedly noted⁴ that during gestation the urinary output is increased about one fourth.

Further renal insult has been attributed to the acidosis so common in the last trimester of pregnancy.^{5,6} The depletion of the alkali reserve may account in part for the unusually delicate physiologic balance which occurs in pregnancy.⁷ There occurs a depletion of the maternal calcium; the calcium content of the blood diminishes during pregnancy,⁸ especially during the last weeks.⁹ Following delivery the calcium content of the blood rises until the onset of lactation, when an abrupt but transient fall occurs which is associated with an abrupt rise of the arterial tension.¹⁰ This inverse relationship of the arterial tension and the calcium content of the blood is probably more of physiologic than pathologic import, as the same fluctuations are observed in normal women as in those with hypertensive disease. During gestation the general resistance of the body to infection is often diminished and therefore infective processes, such as apparently trivial coryzas, may have relatively extensive renal injury as sequelae. Virilism in women appears to predispose to nephritic intoxication and hypertension;¹¹ syphilis is rarely a factor in these intoxications.¹²

The above enumerated factors, individually and collectively, are all operative in creating a predisposition to renal injury during gestation and in affecting adversely the processes of renal repair and rehabilitation. In addition to these contributing factors is the vitally significant intoxication characteristic of pregnancy. The term "toxemia of pregnancy" has been loosely applied here, but there is no convincing evidence that the intoxication is one

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of the blood stream as implied by the term "toxemia"; the intoxication is essentially one of the tissues, with especial injury to the renal, cerebral and hepatic parenchyma.¹³ Despite the enormous labors of innumerable investigators, the specific chemical nature of the noxa involved and the anatomic and physiologic sources thereof are still shrouded in mystery. We shall not attempt to review this voluminous literature with its chaos of conflicting theory and observation. It is clear only that the uterine contents in pregnancy have some intimate, essential and fundamental association with this intoxication.

CLASSIFICATION

Accurate recognition of the distinct forms or types of nephritis as they occur in pregnancy is vitally essential for a proper conception of the problems of prognosis, etiology and therapy. The clinical classification of nephritis has ever been a source of argument and confusion, which is aggravated by an unfortunate ambiguity of terminology. The term "nephrosis" we shall attempt to avoid because of the vagueness of its definition. The unfortunate term "low reserve kidney" has been perverted by some¹⁴ to denote a mild intoxication occurring late in pregnancy, whereas true reduction of the renal reserve will manifest embarrassment early in pregnancy. Unfortunately, a truly satisfactory etiologic classification is as yet impossible. Pathologic classification of renal disease has proved unsuitable for clinical purposes. Classification along clinical lines and based on a broad etiologic background is probably the most satisfactory.¹³

Such a classification permits of division of the nephritides in pregnancy into four major types (from ref. 15):

CLASSIFICATION

Type A. Syndrome of renal fatigue in pregnancy. Common synonyms: Kidney of pregnancy; nephrosis of pregnancy; albuminuria of pregnancy, "low reserve kidney."¹⁴

Type B. Preeclamptic intoxication and eclampsia.

Type C. Preexistent renal and/or arterial disease exacerbated by pregnancy. Common synonyms: Chronic nephritis; recurrent nephritis; low reserve kidney (proper application), hypertensive arterial disease.

Type D. Coincidental nephritis.

These four types represent four distinct clinical entities and may be rather sharply defined. This classification incorporates a significant etiologic consideration: in types A and B the primary etiologic factor is the unknown intoxication of pregnancy *per se*; in types C and D the primary etiology is independent of

gestation and pregnancy influences the condition by inducing exacerbation thereof.

Reports of the relative frequency or incidence of these various nephritides in pregnancy are not in entire agreement. The difference in incidence may be in part attributed to a failure to recognize all instances of pre-existent nephritis exacerbated by pregnancy as such, for it is in this connection that the greatest discrepancy appears. At the Chicago Lying-in Hospital, type A constituted approximately 40 per cent of the total nephritides in pregnancy; type B, 25 per cent, and type C 36 per cent.¹³ Type D is rare but cannot be ignored as it is of diagnostic significance.

TYPE A. SYNDROME OF RENAL FATIGUE IN PREGNANCY

The term syndrome of renal fatigue in pregnancy is suggested as perhaps best defining the clinical course and physiologic changes observed in this disturbance. Formerly the syndrome had been variously designated as "the kidney of pregnancy," "albuminuria of pregnancy," "nephrosis of pregnancy," and, erroneously, as "low reserve kidney of pregnancy." The term "kidney of pregnancy" is obviously meaningless and "albuminuria of pregnancy" is scientifically misleading, inasmuch as proteinuria is but one of several significant clinical phenomena observed. From one third to two fifths of all the instances of nephritis in pregnancy are of this type.

The clinical picture presented by the syndrome of renal fatigue in pregnancy is one of a rather mild generalized tissue intoxication with edema, proteinuria and moderate arterial hypertonia. The onset may be gradual and insidious or relatively abrupt, but is not of the sudden explosive character seen in eclamptic intoxication. Albuminuria is frequent but rarely very profuse. The arterial tension, edema and proteinuria slowly and gradually increase in severity until pregnancy is terminated, at which time rehabilitation and recuperation are rather extraordinarily rapid. In almost all cases the edema is gone, the albuminuria has ceased, and the arterial tension returned to normal levels two weeks postpartum. The onset of symptoms is late (at 8 months of gestation on the average). Both the immediate and future prognosis is good in the majority of cases; unless the intoxication becomes more than ordinarily severe, these patients may be safely permitted to go on to spontaneous labor. However, it must ever be kept in mind that the likelihood of recurrent intoxication in future pregnancies is enhanced

and should be anticipated by particularly careful and frequent prenatal observation.

Physiologically the syndrome represents the tissue reactions to a rather mild intoxication. The source of this intoxication is probably multiple: the unknown intoxication of the products of gestation superimposed upon associated coincidental sources of renal injury in an organism fatigued as a result of the markedly augmented physiologic burden. Associated coincident foci of infection, such as devitalized infected dental processes, are very frequent in any series of patients suffering from this syndrome. It is significant that notable clinical improvement is very frequently promptly manifested upon correction of such foci of infection. The intoxication is one which affects all the tissues of the body, although the renal parenchyma seems to suffer the most severely. The rise in arterial tension is evidence of arteriolar irritation, the edema of general tissue injury causing an increased avidity for water. Cerebral and hepatic injury are never severe; convulsions do not occur and icterus is rare. Not all instances of the syndrome of renal fatigue are as mild as here indicated; the intoxication may become alarmingly profound. The situation is not to be taken lightly; neglect may all too readily permit of precarious exacerbation of the intoxication. As half of the patients with this form of renal disturbance in pregnancy reveal definite impairment of the renal functional efficiency, unnecessary prolongation of gestation and of the intoxication is unwise.

The renal pathology observed at necropsy of patients with the syndrome of renal fatigue in pregnancy closely resembles that seen in acute glomerular nephritis with hypertension. The tubular changes are largely degenerative.¹⁶ The capillary loops of the glomeruli are swollen and the glomeruli frequently exhibit moderate hyalinization. It has been suggested by Volhard that arteriolar spasm with resultant glomerular and tubular ischemia is responsible for these changes. That the intoxication induces arteriolar hypertonicity is made evident by the arterial hypertension, retinal inspection and examination of the nail beds.

The treatment of the syndrome of renal fatigue in pregnancy, as the treatment of other nephritides, is not specific. Three fundamental principles of therapeutic attack constitute the basis of therapy here as elsewhere. Omission of any one of this triad of objectives makes therapy inadequate. These objectives are: (1) Removal or amelioration of the source or sources of injury (therapy based upon etiology); (2) reduction of the functional bur-

den of the injured structures, and (3) enhancement of the opportunity for recuperative rehabilitation and repair through maintenance of optimum conditions of tissue nutrition and tissue respiration.¹⁵ It is fundamental that curative therapeutics be based upon etiology.^{1, 17, 18} Similarly, rest of the injured structures is imperative; the maintenance of a heavy burden of physiologic work most emphatically handicaps the recuperative activities of the injured tissues. The third objective is illustrated by the necessity of maintaining an adequate blood supply and nutrition.

Although these three fundamental principles of therapeutic attack are generally applicable, the direct clinical application thereof does not permit of routine methods of therapy and individualization is essential. Each clinical instance of disease presents its own purely individual therapeutic problems.

As just stated, removal or amelioration of the sources of injury is the keystone of curative therapeutics. Symptomatic therapy without recognition of the necessity for an etiologic basis is empirical, at best but temporarily beneficial and is ever inadequate. The removal of the etiologic factors responsible for the intoxication is dependent upon recognition of these factors. In the syndrome of renal fatigue in pregnancy three groups of factors must be considered: (1) Fatigue of the secreting renal parenchyma due to the excessive and exhausting physiologic burden placed upon the kidneys; (2) the specific but unknown intoxication associated with the pregnant state, and (3) frequently some superimposed coincidental source of injury, such as infection.

Thus it is clear that, on theoretical grounds, termination of pregnancy is desirable before prolongation of the intoxication and excessive physiologic burden shall have created extensive, irreparable and irrevocable damage. Practical clinical experience has confirmed the wisdom of such a policy; careful consideration must be given to the method of termination, the maternal health, and the appropriate time.¹⁹ Termination of pregnancy because of the syndrome of renal fatigue in pregnancy does not imply abortion; this syndrome appears late in pregnancy (on the average at 8 months' gestation) when the fetus is fully viable. Should the onset of symptoms occur early, the intoxication is rarely so intense that watchful expectancy cannot be safely practiced until safe fetal viability is assured. It must be strenuously emphasized that the fetus gains little and may lose much by prolongation of intra-uterine existence in an intoxicated mother.

It does not become an internist to discuss

the choice of method of terminating pregnancy. This is largely an individual problem dependent upon purely obstetrical aspects of the situation. The great majority of these patients go into spontaneous labor somewhat prematurely. The decision of when and how to interfere depends also upon the equipment available, the skill of the accoucheur and the rapidity with which the intoxication is progressing. Radical, violent and urgent surgical interference is not indicated; this form of nephritis is neither abrupt in onset nor is the intoxication ever sufficiently profound to justify hazardous radical interference. It is important to keep in mind, however, that the pregnancy *per se* is largely responsible for the intoxication and that unnecessary prolongation of gestation when the fetus is large and safely viable greatly augments the probability of extensive permanent renal injury.

Other accessory etiologic factors require careful search and attention. Eradication of accessible foci of infection, particularly infected devitalized dental roots, as early in pregnancy as possible, is important. Unwise dietary habits, the abuse of tobacco, or the like, may require revision.

Reduction of the physiologic burden of the kidneys is best accomplished by a liberal consumption of fluids; it is less work for the renal structures to secrete a large volume of dilute urine than a smaller volume of highly concentrated urine. Physiologic evidence strongly supports the conception that the greatest part of the renal work is expended in concentrating the urine. The presence of edema does not contraindicate liberal fluid intake. Edema is due to tissue intoxication and should be considered as a protective mechanism; deprivation of fluids to the edematous patient is most unwise. Edema is not due to a failure of the kidneys to secrete water; rather does oliguria result because sufficient quantities of free water have failed to reach the kidneys. The blood is more concentrated than normal in edematous states. The excess of fluids is retained in and by the tissues, both intracellularly and intercellularly, because some intoxication has increased the hydration capacity of the tissue colloids. A goodly number of factors play secondary roles in controlling tissue hydration and dehydration; there is no opportunity to discuss these here. The increase in tissue thirst is measurable by the intracutaneous injection of 0.2 c.c. physiologic saline, as first suggested by Aldrich and McClure.^{20, 21} The disappearance time of this wheal is in inverse ratio to the tissue thirst. Edema is antagonistic to azotemic (uremic) intoxication. Edema

fluid contains and retains in the tissues considerable toxic material.²² Rapid subsidence of edema not infrequently precipitates a profound intoxication. It is notable that the earliest and most extensive accumulations of edema fluid occur in the skin, extremities and serous cavities, whereas the vitally essential parenchymatous structures, such as the heart, kidneys, brain and liver, are spared. The removal of the unknown noxa from the circulation into edema fluid where they are relatively innocuous, must be considered a protective mechanism.

The fundamental basis of therapy of edema, therefore, must take into consideration not only the removal of water but also amelioration of the intoxication responsible for the undue tissue hydration. The objective is not solely to remove the water from the tissues, but involves the removal of the toxic solutes in the edema fluid.²² Dehydration by sweating, concentrated diuretics, hydrogogue catharsis, etc., is precarious, particularly in pregnancy. Water is probably the best and certainly the safest diuretic. Alkalis may encourage diuresis,²³ but not infrequently cause acute exacerbations of edema.²⁴ The mercurial diuretics (merbaphen, salyrgan) are contraindicated; mercury is violently nephrotoxic.

It is essential that the dietary be adequate and not too radically restricted as to essentials. It is not improbable that the edema associated with the syndrome of renal fatigue in pregnancy may be attributed in part to depletion of the maternal tissues of some vital elements, as in starvation edema observed in famine and war. Albuminuria, through depleting the serum-albumin, is a factor in creating edema^{25, 26} and the protein thus lost must be replaced by an adequate protein ration.^{1, 27} Protein starvation because of albuminuria is no longer tenable as logical therapy. The urinary protein is in part tissue protein and in part serum protein, much of the former being of hepatic origin.^{28, 29} Proteinuria, like edema, is probably a detoxicating mechanism.

It has been suggested that diminished thyroid activity contributes to the intoxication of pregnancy.^{32, 33, 34} Medication with thyroid substance diminishes tissue thirst.

TYPE B. ECLAMPSIA

The clinical syndrome of eclampsia and its precursor, preeclamptic intoxication, is so universally known that detailed description is unnecessary. Eclampsia is characterized by an abrupt onset of profound tissue intoxication involving most particularly the hepatic, renal and nervous tissues. The onset is on an average at about 7.5 months of pregnancy. Hepatic dam-

age is severe, often fatally so, as in acute yellow atrophy. The convulsive attacks may be largely attributed to cerebral edema with increased intracranial pressure. The sequence of clinical events in eclampsia may be enumerated as follows: an abrupt, sudden, explosive onset of intoxication with a rapidly rising arterial tension, followed by a rapid accumulation of edema; later, proteinuria, cerebral edema and convulsions. The arterial tension reaches higher levels than in the syndrome of renal fatigue; an average of 185/115 in contrast to an average of 153/97.

The etiology of eclampsia is unknown, except in so much that the pregnant state is intimately concerned. Eclampsia has been repeatedly called "the disease of theories." Termination of pregnancy before the actual onset of convulsions is the most logical protective measure available.³⁷ The earlier in the intoxication such interference is made, the better the therapeutic results.³⁶ Eclampsia is preventable. Prevention consists in termination of gestation at the earliest evidence of preeclamptic intoxication.³⁸ As eclampsia rarely occurs early in pregnancy, such termination of gestation does not necessarily imply destruction or loss of the fetus: actually the fetal risk is diminished by early delivery. The fetal mortality, at best, is from 40 to 60 per cent.

It is obvious that prompt identification of preeclamptic intoxication is of the greatest importance. Preeclampsia and eclampsia differ only in degree. The abrupt and violent onset of symptoms is most significant. Between apparent good health and profound intoxication may be merely a few hours. Any sudden and rapid rise in the arterial tension, either alone or associated with cephalalgia, epigastric distress and abruptly appearing proteinuria occurring during the last trimester of pregnancy requires prompt hospitalization and hourly observation. In the early part of the intoxication hepatic injury rarely has progressed to the point where gross obvious icterus is notable, but the icteric index of the blood will usually be slightly raised. *The degree of albuminuria is not an adequate criterion of the intensity of the intoxication*, nor of the degree of renal injury. Probably the most reliable guide to the progress and status of the acute intoxication is the arterial tension. The rapidity of rise of the diastolic tension and the height to which it rises reflect the severity of arteriolar irritation¹ due to the intoxication.

After the onset of convulsive seizures, obstetrical surgical intervention is much more dangerous,³⁹ and both the maternal and fetal mortality climb sharply. Measures intended to

diminish the major risk from the convulsions *per se* are justified in such neglected cases, although it is but rarely wise knowingly to permit the intoxication to proceed to the point of convulsions. Symptomatic therapy, no matter how effective, does not replace the value of prophylaxis through removal of the cause of the intoxication. Because of the obvious intoxication, efforts at increasing elimination are made, as by purgation or phlebotomy.⁴⁰ But purgation of the pregnant woman increases the likelihood of puerperal infection and phlebotomy may dangerously deplete an already anemic patient.

The gravest risk to the eclamptic woman is the convulsive seizure. Suppression of the convulsions through depression with morphine, chloral hydrate and other depressants has many enthusiastic advocates.⁴¹ Magnesium sulphate administered intramuscularly or intravenously depresses the cerebral irritability,^{42, 43, 44} but it is by no means innocuous and may initiate profound hepatic or cardiac injury. Hypertonic glucose solution intravenously also aids in causing cerebral dehydration; the convulsions apparently may be attributed to cerebral edema and increased intracranial pressure. Good results have been reported from the injection of 500 to 1000 c.c. of a 6 per cent solution of acacia, administered to increase the blood volume and the colloid osmotic pressure of the blood serum.⁴⁵ It should be reiterated, however, that eclampsia may be prevented by appropriate measures to terminate pregnancy at the opportune moment. Just when this opportune moment occurs is difficult to determine and it is here that the greatest clinical skill and judgment are required. Two lives are at stake; that of the mother and that of the fetus. In prophylaxis, perhaps of greatest importance is insisting upon more frequent and better controlled prenatal observation so that early signs of intoxication will not be overlooked.

Although the immediate prognosis in eclampsia is notoriously precarious, the future prognosis is surprisingly good. Recurrent eclampsia in subsequent pregnancies does occur but far less frequently than the severity of the original injury would lead one to expect. Repair and rehabilitation during and following the puerperium is remarkably complete. This is in sharp contrast with the situation with the next type of nephritis in pregnancy.

TYPE C. PREEXISTENT RENAL AND/OR ARTERIAL DISEASE

To the internist this group of renal diseases in pregnancy presents the most interesting problems. In contrast to the syndrome of

renal fatigue in pregnancy and eclamptic intoxication, preexistent disease is not solely attributable to pregnancy per se. It must be emphasized that in all instances of this type of nephritis the renal functional reserve (the margin of safety) has been diminished by previous injury prior to pregnancy. Pregnancy exacerbates the severity of the renal impairment through the imposition of the extra burden of heavy renal work and through the intoxication characteristic of pregnancy, but gestation does not initiate this form of disturbance.

Evidences of previous renal injury may be notable prior to pregnancy or they may be so minor as to escape attention both on the part of the patient and her physician. Extensive reduction of the reserve of the renal mechanism may exist essentially asymptotically and significant errors in clinical judgment may follow. Slowly progressing low grade chronic renal impairment may be as free of conspicuous symptoms as chronic hypertensive arterial disease or mild impairment of the glucose tolerance. Renal decompensation, as cardiac decompensation or financial bankruptcy, may occur with abruptness out of an apparently clear sky, but is always preceded by a period of diminished reserve without actual decompensation of the functional capacity for normal loads. Such failure is frequently precipitated by the undue strain imposed by pregnancy.

The identification of preexistent renal and/or arterial disease when the organism is not under conditions of stress may be extremely difficult. Such a diagnostic problem resembles that of attempting to evaluate the potential efficiency of an automobile while the car is going down hill or on the level road; to all intents and purposes the motor may function perfectly under such conditions, but fail miserably on a long climb. The presence of protein in the urine is not evidence of renal functional impairment, nor is its absence in any sense adequate proof of renal efficiency. Arterial hypertension existent prior to pregnancy is a most significant observation,¹ but it must be recalled that many women have not had determinations of their arterial tension prior to prenatal examination. In relatively rare instances previous arterial hypertension will subside, although some of the arterial changes persist. The patient's history of previous illnesses is not a safe criterion to rely upon; being human, we are all forgetful and frequently inaccurate, and a nephritis in early childhood may have never been detected. In this connection, the family practitioner, who

knows first hand the details of his patient's past, is at a great advantage.

The etiology of preexistent renal and/or hypertensive disease may be multiple¹ and varies in each clinical instance. Previous infections, exogenous or endogenous intoxications, injury from previous pregnancies and metal or drug poisonings may all play a role.⁴⁶ Each patient requires painstaking study anent sources of previous injury if a truly accurate etiologic diagnosis is to be obtained.¹ Not only is it of value to know the etiologic sources, but their duration and extent and the probable rate of progression of the disease are most significant in evaluating the prognosis.

It is here, perhaps as much as anywhere, that renal functional studies are of the greatest value. We shall not attempt to discuss in detail the numerous methods of obtaining clinical information anent the renal function. The only logical method of measuring the reserve strength of anything, be it kidneys, heart, liver, automobile or bank, is by *observing the response to increased effort*. The response of a car to a steep hill, the response of the heart to varying degrees of exertion, or of a financial house to a panic, are all more significant than the mere absence of knocks or murmurs or rumor. The practical problem thus becomes one of finding some means of "making the kidneys climb a hill." As stated previously, physiologic investigations indicate that the greatest amount of renal work is expended in concentrating the urine; it is much more work for the renal tubules to secrete a small volume of highly concentrated urine than a large volume of dilute urine. Thus, conditions of increased renal effort may be created by one of two methods: by increasing the solutes to be secreted or by diminishing the solvent available. In the urea concentration test of Maclean and de Wesselow⁴⁷ the first principle is applied: the addition of solute.

Somewhat simpler and equally informative is the renal concentration test, the present procedure of which was suggested by Fishberg.⁴⁸ This procedure is based upon depriving the secreting mechanism of water and thus requiring the kidneys to secrete a concentrated urine, *if they are able to do so*. The physiologic background of the test is sound, as attested by the investigations of Volhard, Addis and many others. The procedure is as follows: the patient is instructed to take no fluids or food after the usual supper until 10 or 11 the following morning. The first morning voiding is discarded (this urine was secreted during the night), but 3 separate urine specimens are

obtained at 8, 9 and 10 a. m.; these have been secreted from 14 to 16 hours after the last intake of fluid.¹ With normal renal functional reserve the maximum specific gravity of any one of these specimens should reach 1.025 or above, determined at room temperature. Failure to concentrate the urine to this degree under these conditions may be taken as evidence of diminution of the renal functional reserve.

Assuming that this simple procedure has been correctly carried out, there still exist two sources of error: during the subsidence of any edema diuresis of dilute urine will occur despite the fact that no water has been consumed by mouth, and large amounts of protein in the urine may raise the specific gravity. These two sources of error are easily controlled.

This extremely simple but thoroughly logical and physiological "hill climbing" test of the renal reserve has proved its clinical value.^{1, 48, 21, 15} It reveals renal functional disturbances much earlier than does the phenolsulphonephthalein test.¹³ Such impairment is invariable in all instances of preexistent renal disease in pregnancy.¹³

The clinical picture of preexistent renal and/or hypertensive disease exacerbated by pregnancy is clearly defined and characteristic. Of the greatest importance is the fact that both subjective and objective symptoms appear insidiously early in the course of gestation; the average onset of symptoms is before six months of pregnancy. Edema is rarely severe and albuminuria is rarely profuse, but the arterial hypertension is profound. The average arterial tension of twenty cases of this form of renal disease in pregnancy was 194/148. The extreme diastolic hypertension is notable. Cephalalgia, apocamnesia, anemia, vertigo and visual disturbances are frequent phenomena. The relative rise in arterial tension is frequently no greater than that which occurs in Type A or B nephritis; there usually exists some hypertensive disease prior to pregnancy as well as the renal impairment.

The effect of pregnancy upon the course of chronic renal disease is marked. In these patients the problem is more one of nephritis complicated by pregnancy than pregnancy complicated by nephritis. Pregnancy initiates a severe exacerbation of all the degenerative processes of the nephritis, which exacerbation persists after the end of gestation. The longer the deleterious effects of gestation continue the more severe is this lasting exacerbation. Puerperal repair and rehabilitation are most inadequate; follow-up studies reveal that up to

three years after hospital observation 80 per cent of these patients are still decidedly ill.¹³ Each succeeding pregnancy creates further renal injury and markedly accelerates the progression of the hypertensive aspects of the disease.¹

The immediate maternal prognosis is relatively good although the fetal mortality of 60 per cent is the highest of any group of nephritis in pregnancy. Arteriolarsclerotic changes in the placenta interfere with fetal nutrition and placental hemorrhages and abruptio placentae are frequent.⁴⁰ Retinal hemorrhages are a menace and cardiac exhaustion from the continued excessive arterial hypertonia is a constant threat.¹ In sharp contrast to the relative immediate safety is the extremely grave future prognosis. As just stated, 80 per cent of these women continue in very poor health long after pregnancy is past. It is essential that it be kept in mind that the exacerbation of the nephritis evidenced by pregnancy continues with little or no abatement. To consider only the immediate maternal prognosis and ignore the problems of the future is to fail in full realization of the situation. The circulatory-renal disturbance remaining after such exacerbation is one of the most difficult to combat; all forms of therapy seem of little or no avail and the malignant progression continues until cardiac exhaustion or renal decompensation claims its victims a few years later.

It is thus evident that hypertensive disease, or nephritis with functional impairment existent prior to pregnancy, constitute a most emphatic contraindication to permitting pregnancy. If the diagnosis is only possible after pregnancy is already under way, careful and conscientious evaluation of the relative risks is necessary. In many instances the sanest and safest attack is prompt termination of pregnancy. In other instances it is possible to carry the pregnancy to the point of relatively safe fetal viability and terminate at that time. I do not feel that it is wise to permit pregnancy to continue to spontaneous term in these patients; all too frequently does an abruptio placentae precipitate a violent labor resulting in a dead fetus, or the continuation of the unnecessary intoxication leads to extensive permanent, irrevocable and irreparable renal and arterial injury.

Future pregnancies are obviously to be avoided; and it most emphatically does not suffice merely to inform the woman that repetition of pregnancy would be dangerous.

The management of preexistent nephritis in pregnancy, when it is felt wise to permit gesta-

tion to continue to fetal viability, is based upon the same logic and has the same objectives as therapy in the syndrome of renal fatigue. It is the renal and circulatory fatigue and overwork during pregnancy which is probably responsible for much of the exacerbation. Of great importance is insisting upon a large fluid intake. Because of the failure of the kidneys to concentrate the urine, much larger volumes of urine are necessary to eliminate the metabolic solutes. Edema is not a contraindication to encouraging such a large fluid intake.

TYPE D. COINCIDENT NEPHRITIS

The problem of this form of renal disease in pregnancy is inevitably an individual problem in each specific instance. The form of nephritis may be any one of those observed independently of pregnancy. It must be recalled that gestation confers no immunity toward coincident disease and in the instance of renal disease, pregnancy clearly predisposes to injury. Although this form of nephritis constitutes the smallest group of those nephritides observed in pregnancy, it is clear that, to assume that all instances of nephritis occurring during gestation are necessarily attributable to the pregnancy, is not warranted.

In most instances coincidental nephritis in pregnancy is acute and therefore the etiologic factors are usually relatively evident. The most frequent source is infection—nephritis as a sequel to influenza, sinus infection, otitis media, tonsillitis and the acute contagious diseases. More difficult of detection is the etiology in instances of coincident nephritis due to drug intoxications, plumbism, allergic reactions and turpentine or phenol poisoning. The onset of such an acute nephritis during the last trimester of pregnancy may be easily confused with preeclamptic intoxication. Instances of acute intoxication and nephritis due to an idiosyncrasy to quinine, to arsenical poisoning from overly energetic antiluetic therapy, to plumbism resulting from occupational exposure, to mercuric bichloride poisoning from adulterated liquor, are among those recalled.

Treatment of these cases of coincident nephritis is essentially no different from that previously discussed. Individualization of therapy based upon etiology is important.

RECAPITULATIVE SUMMARY

Nephritis in pregnancy is a frequent and serious clinical problem. Pregnancy predisposes to renal injury because of the greatly augmented burden of renal work and because of the specific intoxication attributable, in some

manner, as yet unexplained, to pregnancy. Certain clinical phenomena occurring in nephritis, such as edema, arterial hypertension and cerebral symptoms, must be attributed to the generalized tissue intoxication rather than purely to renal inadequacy. The significance of this generalized tissue intoxication must ever be before us in determining the methods of therapeutic attack.

Nephritis in pregnancy is divisible into four major types, clinically and etiologically distinct: A, the syndrome of renal fatigue in pregnancy or the nephrosis of pregnancy; B, eclampsia or preeclamptic intoxication; C, pre-existent nephritis exacerbated by pregnancy; and D, coincident nephritis. These four forms constitute distinct clinical entities, with characteristic clinical pictures, prognoses and therapeutic problems.

The therapy of nephritis, as the curative therapy of any disease, must depend upon three cardinal principles of attack: (1) Eradication or at least amelioration of the etiologic factors responsible for the disease (etiologic therapy); (2) reduction of the physiologic burden of the injured structures, and (3) enhancement of the efficiency of tissue respiration and nutrition.

30 North Michigan Boulevard.

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PHYSICAL CHARACTERISTICS OF HIGH FREQUENCY CURRENT

Allan Hemingway and W. K. Stenstrom, Minneapolis (Journal A. M. A., April 23, 1932), emphasize the fact that the small amount of physical knowledge acquired as a premedical student is likely to be temporarily forgotten under the overwhelming load of anatomy, chemistry, physiology and so on. It is for this reason that they commence their paper with a brief review of some of the fundamental principles of electricity that are applicable to the action of high frequency. They then give a detailed discussion of the applications of physical and chemical theory in diathermy and the methods and clinical use of short wave therapy (radiotherapy).

COLOSTOMY *†

WARREN R. RAINEY, M.D.

ST. LOUIS

Colostomy is absolutely necessary as a preliminary operation in such drastic procedures as the removal of a carcinoma of the rectum. This type of colostomy is almost invariably performed on the left side of the abdomen in the lower quadrant. The segment of large bowel selected is the loose and freely movable sigmoid. This operating procedure is of all surgery without a doubt the most distasteful and revolting to the laity.

In the first consideration, it may as well be emphasized that no one has devised any operation for colostomy that will assure any degree of sphincteric control of the artificial stoma. Many attempts have been made to accomplish this purpose but no single standardized procedure has so far been perfected by which sphincteric action may be maintained. With this in mind, it is the purpose of this paper to give assurance to the laity, and in no less degree to physicians, that the life imposed upon the patient by the establishment of an artificial abdominal colonic opening need not necessarily demoralize the patient, interfere with his customary business routine, nor deprive him of his social contacts, sports and those pleasantries that go to make for an unrestricted daily life.

Obviously, in viewing the situation created by colostomy it will be necessary to take care that the issue shall not be clouded by the unfortunate patient who suffers from the recurrence of a carcinomatous growth. Far too frequently, the repugnance against the requirements of a colostomy life overshadows the benefit as the vision is one of the wasting and slow-dying process of a carcinomatous invasion.

Colostomies are of two types, the complete and incomplete, or the permanent and temporary types; also, according to the location or site of the colostomy beginning with the frequently employed ileostomy, obviously not located in the colon, cecostomy or appendicostomy, the employment of the right or left half of the transverse colon, and the most frequently utilized sigmoid.

Colostomy in the right half of the colon, including ileostomy, is not to be considered in this picture as the fecal content is liquid, is not controllable and has a tendency to produce excoriation of the skin that requires constant watchfulness to prevent painful and irritating

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† From the Department of Surgery, Washington University Medical School.

skin lesions. As a consequence, ileostomy and colostomy at this site are not performed as permanent procedures, except in the presence of the most serious pathological involvement of the large bowel. Since the left half of the colon, and the sigmoid in particular, contains dehydrated fecal content, the evacuation following colostomies at this site is practically controllable.

The technic used in performing the sigmoid colostomy is of the complete or permanent type and is practically the same in all the clinics in the country. None of the many attempts in the development of an artificially controlled stoma have survived the author's own recommendations. Two procedures must be recognized: One, as used in the preliminary stage of Lockhart-Mummery or posterior resection; the other in those operations where a complete removal of the distal segment is contemplated. In the first, the sigmoid is withdrawn through a left rectus incision. An opening is made through the mesentery and the layers are sutured together through this opening, first the peritoneum, second the fascia, and third the skin. The fascia, or second layer, is the all important one in this operation. The forming of a stoma or opening through which the large bowel passes is given considerable care. It should be neither too large nor too small as, in the first case, it invites prolapsing of the large bowel and herniation and, in the second instance, there is danger of restricting the opening to the point of causing subsequent obstruction. This plastic reconstruction for both the efferent and afferent limbs of the bowel should leave an opening just large enough to admit the index finger comfortably. This holds equally true where only the proximal limb of the bowel presents on the abdominal wall.

In the first type, such as used with the Lockhart-Mummery operation, the second stage, or the actual opening of the bowel, is usually performed on the fifth day but it may be delayed to a full week or even ten days to allow sufficient time for complete healing of the skin wound. The first procedure can be accomplished under the influence of a general anesthetic, spinal anesthesia, or an infiltration of the abdominal wall at the site of operation. The second procedure is best performed with the electric cautery knife and no anesthetic is required. No attempt should be made, particularly at this time, to remove any of the bowel substance. Amputation of the stump of the protruding bowel down to the level of the abdominal skin may result in retraction and scar formation about the stoma to such an extent that obstruction results or painful indolent

ulcers form about the opening. The site for the location of the stoma will depend occasionally upon the circumstances met at the time of operation. Obviously, the incision must be sufficiently large and located at a site that will permit of complete palpation of the liver for secondary carcinomatous invasion and a careful investigation of the tumor and its gland-bearing areas must be made in order to determine the prospects of successful removal. Such a rectus incision frequently precludes in a fat individual the possibility of withdrawing a sigmoid with a shortened mesentery. Occasionally, the shortened mesentery defeats the hope of making a low left colostomy and forces the surgeon as a matter of safety to select the transverse colon. The latter site has met with considerable approval in recent years as it leaves the entire lower field free from contamination and adhesions for the more drastic operation of removal of the tumor.

Carcinoma of the anal rectal region cannot be removed without resorting to colostomy. All attempts with radium, roentgen ray, diathermy, or such operating procedures as would resect short segments of the rectum and thereby save the sphincter muscle intact, have gone by the board. They have been misleading and only in rare instances have they met with success; no one of them has been so consistently successful that the procedure has been found worthy to survive. Every authority and every clinic, both in this country and abroad, which deals with the treatment of carcinoma of the rectum recognizes that a colostomy is absolutely necessary if any hope is to be entertained for a successful removal of the growth.

Colostomy as a procedure is to be considered in other conditions that develop in the pelvic colon and rectum. At Barnes Hospital, St. Louis, over two hundred Negroes have applied for treatment for benign stricture of the rectum. Prolonged controversy has failed to establish the origin, although syphilis is generally accepted as a causative factor. Anti-syphilitic treatment has failed to change or modify the stricture. Operative procedures rarely meet with success, and slow manual dilatation over a period of many years is at present the only hope of maintaining the fecal passage. In spite of this treatment the patient is miserable and incapacitated for work or pleasure. To this group colostomy is recommended. Generally it is rejected, but when accepted patients are exceedingly grateful and immediately their invalidism disappears and they can return to a life of usefulness.

In the group including the little understood cases vaguely classified as ulcerative colitis in which the disease is confined to the rectum and

ends in increasing obstruction, colostomy is the only possible relief in an otherwise hopeless situation. Within the year, the writer has had occasion to perform such an operation upon a bedridden invalid whose extreme loss of weight, frequent and irritable stools and general distress were so marked that little hope was entertained for relief except from the frequent painful stools. Immediately following the operation, however, the patient began to gain in general health, the stools were reduced to one a day, the appetite returned at once and a gain of thirty-eight pounds in weight has occurred within the nine months which have elapsed. This woman has resumed her former mode of life, is active in the club and social life and the fact that she has a colostomy is unknown to her many friends.

Following certain operations, particularly for the repair of a rectal fistula and occasionally following hemorrhoidectomy, complete loss of sphincteric control results. The patient is as hopelessly situated as was the person on whom the original Kratsky operation was performed; and at any time and at inopportune occasions soiling was apt to take place. A dressing has never been devised that will preclude this accident occurring. Binders, plugs and variously shaped pads firmly secured over the perineum have failed in their design and have only led to excoriation of the skin. Finally, through necessity, the patient adopts some form of waterproof diaper snugly fitting about the thighs. In spite of this, the soft liquid stool escapes with the passing of the gases and the entire perineum and thighs are soiled. To such a patient a well placed colostomy on the abdominal wall furnishes the greatest relief. Naturally, a colostomy is not recommended if there is the slightest hope for restoration of the sphincter muscle by single or multiple operations.

The pelvic colon and rectum are occasionally involved in trauma. In service with the American Expeditionary Force during the recent war the writer saw many such cases, the result of high explosive shrapnel and high velocity bullets. The outstanding complications in such cases are, localized pelvic abscesses, massive inflammatory reactions with the accompanying general sepsis, and secondary hemorrhage. These complications are exceedingly dangerous and many deaths resulted. Lacerations of the colon as a complication of pelvic fractures resulted in the same conditions as those mentioned. Irreparable injuries to the rectal sigmoid colon occasionally occur during gynecological operations. On account of the inflamed condition, suturing at this time is well-nigh impossible. The patient's life is jeop-

ardized by unsuccessful but prolonged attempts at repair. As an emergency procedure, colostomy is the only successful way out, awaiting such future time for repair of the injured bowel and the closure of the colostomy as the patient's condition permits. More than forty cases have been reported in this country in which compressed air has been forced into the anal orifice and a ruptured sigmoid and rectum has resulted. Where early operations have been performed recoveries have been recorded, but frequently time has elapsed and a prolonged suturing cannot be withstood, or inflammation of the injured parts was so advanced that sutures would not hold, so colostomy was the only solution. If the slightest doubt exists in the mind of the surgeon as to his ability successfully to close the laceration, he can conscientiously withdraw the loop and establish a colostomy that can later be closed. Even with full assurance on the part of the surgeon that his repair to the gut is satisfactory, the prognosis can be extended by following with colostomy.

It is exceedingly difficult to explain to a patient the necessity of performing this operation. The psychological approach is one that deserves the most serious consideration, for the shocking realization of the suggested calamity completely unnerves him. The physician must appreciate the fact that the mind of the patient has in no wise been prepared for the reception of this startling news. His first reaction is practically one of resentment against the diagnostician and his words are felt as a brutal assault. At once he grasps at a new thought. This doctor is wrong and the patient's impulse is to get away from the doctor and his consulting rooms as quickly as possible. He promises to come back at once, he promises anything to end the consultation and be gone. The consultant will find that many of them do not come back and he never sees them again. Others, fortunately, make second contacts—usually the kindly reassuring family physician who wisely treats his shell-shocked nerves and accompanies him back to the office of the consultant. Far too many visit physician and clinic, believing no one and losing their early opportunity for recovery. Many hide their calamity in a false security of ignorance, Christian Science treatment or other subterfuge. Unfortunately, some become the victims of quacks, fake clinics, delusioned and dishonest physicians who putter with roentgen ray, radium, diathermy and what-not.

The writer is convinced that upon first discovery the physician is wise in withholding the full meaning of the calamity. At a second examination the presence of the family physician

will prove a great aid in explaining the true situation to the patient. Quiet assurance rather than egotistical boasting about a clever diagnosis is the important approach. It is of course absolutely essential to explain the positive necessity for the operation and at the same time discuss at length with him the satisfactory outcome others have had where the same operation has been performed. To the physician who discovers a carcinoma of the rectum it is recommended that he accompany his patient to the office of the consultant. The length to which the family physician can go in making a positive diagnosis and outlining the full significance of what may happen should be greatly curtailed. In the first place, in full deference to any physician, he might be wrong in his diagnosis. If consultation is asked, leave the full burden of responsibility upon the consultant.

A careful follow-up and study of the lives of many of our patients who have had colostomies for several years has given us an added assurance in recommending this operation to others. And it is the reciting of these experiences in minutest detail to the new patient that gives him the assurance and courage necessary to face the ordeal. Considering the life of the patient on leaving the hospital, one finds that for a period of some three months reactions to the new conditions are somewhat various. Each patient desires to hide his misfortune and sometimes this amounts to an obsession that results in many complexes. Such a patient should be carefully aided in directing his daily life by giving him assurances, outlining his diet, helping him in the routine care and toilet required by his new mode of living. He will soon learn that he cannot indulge in too many of the sweets, the malt liquors or seasonal fruits. As quickly as each new item is discovered that causes looseness in the bowel content it is relegated from his diet list. No particular diet is imposed. He may eat as he sees fit and as much as he desires, fully realizing that he pays the penalty when he steps over the border of his restricted list. The writer has personally known many patients who have mingled socially and in their business affairs and not been embarrassed on account of their colostomies. One patient in particular, a vivacious young lady of twenty-eight years, absolutely refuses to limit herself at all. She dances, swims, plays tennis and thoroughly exhausts her associates by her strenuous pace.

Rankin concludes that the high mortality following colostomy results from two distinct causes, both of them procedures which can be rectified. First, manipulation of the carcinomatous growth at the time of exploratory

operations in determining the size, movability and general possibilities of removal. Second, operation upon patients in whom obstructions have persisted for a long period. The permeability of the bowel wall weakened by prolonged distention affords the source of infection and general peritonitis. In the second group, the mortality can be greatly reduced by preparing the patient properly before a permanent colostomy is performed. The patient should receive hypodermoclysis to combat the ever present dehydration, intravenous glucose to counteract the effect of acidosis and gastric lavage. The intranasal duodenal tube permanently retained is a very satisfactory method of combating duodenal regurgitation.

The second consideration is the immediate relief of the obstruction. This can be brought about in many cases of rectal and rectosigmoidal growths that come within the reach of the sigmoidoscope. The procedure of this technic follows:

1. With the patient lying on his left side, the sigmoidoscope is introduced into the rectum just through the internal sphincter.

2. The window is applied to the sigmoidoscope and air is introduced until the rectosigmoid is thoroughly dilated. The instrument is introduced under direct vision up to the site of the growth. Occasionally on account of abnormal distention of the bowel created by the growth it will be necessary to guide the proctoscope by an advancing applicator surmounted by a cotton swab, or to use one of the guides suggested by Dr. McKenney, of Buffalo. It is exceedingly important to stress the fact that no force should be used in the final stage of this manipulation since perforation into the peritoneal cavity is not at all impossible. Again, such manipulation although not resulting in perforation may break down lines of defensive adhesions that will result in leakage and general peritonitis.

3. When the opening in the obstructing growth is located the window is withdrawn and an attempt is made by manipulating a catheter to introduce it gently through the obstruction under direct vision. Rectal tubes and bougies are both used in this manipulation.

4. When the growth has been successfully passed repeated irrigations will soon relieve the abdominal distention, the patient immediately begins to improve and general toxemia disappears. The irrigating catheter can be fixed in position so that saline can be introduced by rectum and frequent irrigations performed. By this simple method the obstruction can be overcome and within a few days a colostomy can be performed with the hazards greatly reduced.

If the obstructing growth cannot be relieved then cecostomy is the operation of choice. This quickly relieves the obstruction and within five to seven days colostomy can be performed.

COLOSTOMY LIFE

The habits and care of the patient with a colostomy will now be given more detailed consideration. Apparently, the British surgeon has felt the need of detailing this situation to the practitioner and to the laity far more often than have we in America. L. P. Gibson, of Cowes, states: "Having collected some first-hand evidence on this condition of colostomy and while not suggesting that the state is to be envied, or is any thing but a calamity, it is certain that the frequently expressed 'I would rather die' opinion is unnecessary and ignorant." He continues in his discussion that his patients are not advised to wear colostomy belts or cups; rather they wear a single cotton binder over a cotton-wool pad, reinforced by several pieces of toilet paper. He mentions in particular one colostomy patient over sixty years of age who works hard, drives his own car, plays two rounds of golf a day and most of the time entirely forgets his disability. Curiously, this patient suffers no more from rheumatism or neuritis, due no doubt to the relief of his bowel stasis. Lockhart-Mummery, the great English physician, has convincingly added his testimony after a painstaking investigation into the subsequent lives of his colostomy patients.

The patient is advised to evacuate his bowels directly following his breakfast. To stimulate this movement, the bowel is irrigated through a No. 20 catheter directly inserted into the colostomy opening and attached to a container of plain water or saline solution. One pint to a quart of water is ordinarily sufficient to stimulate a peristaltic urge. Accompanied by ordinary abdominal straining, the stool and water content can be quickly evacuated into a kidney-shaped basin. A second and slighter urge follows within three to five minutes and the remaining fluid contents are passed out. The toilet of the abdominal wall quickly follows and the patient is ready to apply some form of dressing or colostomy cup, and dress for the day. Binkley, of New York, and Dudley Smith, of San Francisco, have so devised combined irrigating tubes and colostomy cups and bags that the patient is able to sit upon the stool, complete the entire toilet, the washings all escaping through a rubber tube passing between his thighs.

It has been the writer's experience that most patients quickly discard all types of cups and

retaining bags and meet the situation quite successfully by wearing a soft cotton pad, lined with a few layers of toilet paper, and a snugly fitting abdominal belt or binder.

CONCLUSIONS

1. A properly performed colostomy on the anterior abdominal wall offers the best solution for the patient where the rectal function is either completely destroyed or has to be removed for carcinoma.

2. This opening should not be too low upon the abdominal wall, should not be placed near the iliac crest nor in the flank but should approach the center of the abdomen.

3. To be certain that before leaving the hospital the patient is thoroughly taught the care of the colostomy which will subsequently devolve upon himself.

4. To make certain that the family physician is likewise familiar with the instructions given the patient for his care and that he is fully conversant with the complications that might arise at any time.

5. Great gentleness should be used in all contacts with the patient.

University Club Building.

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ULCUS VULVAE ACUTUM ASSOCIATED WITH LESIONS OF MOUTH

Max S. Wien and Minnie Oboler Perlstein, Chicago (*Journal A. M. A.*, Feb. 6, 1932), report a case of the combined association of mouth and vulvar ulcers in a girl, aged 17. The lesions occurred in definite cycles and sequence, the mouth lesions being primary in each attack. The mouth lesions conformed clinically to those described as peradenitis mucosa necrotica recurrens and the vulvar lesions conformed to the diagnosis of ulcer vulvae acutum. The occurrence of combined lesions during the period of convalescence following any acute infection and the invariable association of amenorrhea is worthy of note. The authors believe that peradenitis mucosa necrotica recurrens and ulcer vulvae acutum are related conditions resembling each other clinically, occurring in different localities, and dependent on the same fundamental factors or group of factors for their genesis: namely, (1) physical condition of patient; (2) nervous instability; (3) endocrine imbalance.

FOCI OF ATTACK IN THE PREVENTION OF BLINDNESS IN MISSOURI*

HARVEY D. LAMB, M.D.

ST. LOUIS

It is earnestly hoped that a brief discussion of some important factors in the prevention of blindness will be of interest to the general medical profession in Missouri.

One of the criteria of a commonwealth's progress or degree of civilization is the intensity of its efforts to diminish visual handicaps among its constituents. At the present stage of ophthalmic knowledge, it must be conceded that not all the causes of blindness are preventable. Speaking conservatively, however, between 45 per cent and 50 per cent of all blindness in the United States with its attendant anguish, poverty and unhappiness, is definitely unnecessary.

Much has already been accomplished in the fight against preventable blindness; in a large sense, every eye-physician and general practitioner in Missouri has been most efficient in limiting visual handicaps. Credit is very especially due to Mrs. Anna F. Harris, Dr. E. P. North, Dr. Paul D. Mossman, Dr. William H. Luedde, Dr. Meyer Wiener and Mr. S. M. Green, for their persevering and constructive work in this field during the last fifteen years. The highest tribute of praise has been fully earned by the Missouri Association for the Blind, now the St. Louis Society for the Blind, founded in 1910, and the Missouri Commission for the Blind, established in 1915, both of which have always demonstrated that they considered the prevention of blindness their most important function.

The prevention of blindness in Missouri gained a clearer vision of its objective when approximate estimates of the causes of blindness in the State were made. In the last eleven years, during which pensions for indigent blind adults have been granted by this State, it has been possible to draw up three entirely distinct summaries of the pathologic changes leading to loss of vision as certified in the papers of each applicant for this pension. Data on 4780 blind individuals applying for the pension up to June, 1923, and figures on the same individuals reapplying, with the addition of new applicants making 5552 in all, examined between June, 1923, and about December 1, 1923, were computed by the writer; in December, 1926, a third table of the causes of blindness as set down on the application papers was summarized by Dr. Meyer Wiener and Miss Audrey M. Hayden for the 3153 pensioners then on the blind-pen-

sion roll. In addition, the causes of blindness are known among 712 juveniles who have been pupils both in the Missouri School for the Blind since 1905 and in the semisighted classes of the St. Louis grade schools since 1924. Finally, from the diagnosis on about 3900 cases studied in the forty-one clinics held over the State under the direction of Dr. Meyer Wiener since January, 1929, much valuable data on the causes of defective vision in Missouri have been obtained.

Twenty years ago, ophthalmia neonatorum was the greatest single cause of blindness in children, accounting for 22 per cent of the pupils entering the Missouri School for the Blind. Through agitation among the physicians of this State and the passage of a law in the Fifty-First General Assembly, 1921, to make compulsory the instillation of 1 per cent silver nitrate into the eyes of new-born infants, the incidence of ophthalmia neonatorum among new pupils entering the Missouri School for the Blind has been decreased to 9 per cent. Nevertheless, blindness from this practically unnecessary cause does still occur; in fact three new pupils of last year have been seriously handicapped from this condition. Since it is thought in some quarters that 1 per cent silver nitrate does infrequently cause an unpleasant chemical conjunctivitis, the use of $\frac{1}{2}$ per cent silver nitrate is advocated as being much more efficacious than that of weak solutions of boric acid, argyrol, neosilvol and mercurochrome, now so frequently substituted.

Trachoma has been the greatest single cause of blindness among adults in Missouri; among the 5552 applicants for pensions for the blind, examined between June and December, 1923, 26.1 per cent had lost useful vision as the result of trachoma. When in 1922 it was realized what a tremendous destruction of sight trachoma was causing in the State, Dr. Emmett P. North, then president of the state board of health, immediately brought the facts to the attention of Dr. Hugh S. Cumming, Surgeon General of the United States Public Health Service, and to the Rockefeller Foundation. As a result, traveling survey clinics were held on a special train furnished by the Frisco Railroad, moving about over the southern part of the State. The counties where help was most urgently needed having thereby been determined, Dr. North in 1923 obtained from the State legislature an appropriation of \$25,000 for the biennial period, to which the United States Public Health Service added an equal amount, and the trachoma hospital at Rolla, Mo., was established. Numerous field clinics have also been held from time to time covering the State trachoma belt. The really tre-

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mendous amount of the most efficient remedial and prophylactic antitrachoma work accomplished by the United States Public Health Service since 1923 was brought in detail to the attention of the Missouri State Medical Association in 1931 by Dr. C. E. Rice, now in charge of all the trachoma work in the United States, and his associate at Rolla, Dr. J. E. Smith. This report was published in our JOURNAL in January, 1932. So effective has this work become that active cases of trachoma are now a great rarity in St. Louis and no cases of trachoma in any stage have been present among the children attending the Missouri School for the Blind in the last five years. In addition, among the 1250 new blind pensioners for 1931, loss of sight was attributed to trachoma in only 18.3 per cent, indicating a definite decrease in incidence.

With the exception of this very active preventive work in the case of ophthalmia neonatorum and trachoma, practically no effort in a concerted or organized way has so far been attempted to influence blindness from any other of the preventable ocular diseases, such as particularly from atrophy of the optic nerve and the hereditary ocular changes. Among pupils at the Missouri School for the Blind, the percentage of those blinded by optic nerve atrophy during the last 26 years has remained around 16 per cent of the entire number in attendance at any one time. In the last five years it has accounted for more blindness at the school than has ophthalmia neonatorum, attaining therefore the first place as a single cause of blindness among children in Missouri. Among blind adults in the State, optic nerve atrophy has been the third highest cause of blindness, destroying the vision in 12 per cent of all blind individuals. In 1931 this percentage remained constant among the 1250 new additions to the pension roll. Since in at least 75 per cent of these cases of optic nerve atrophy, both in children and in adults, syphilis, either congenital or acquired, is the etiologic factor, it surely follows that many cases of syphilis are not being cured, principally of course through lack of cooperation on the part of the patient. Intensive education seems the only remedy.

Hereditary ocular changes have caused a great deal of visual loss among children in Missouri. During the last 26 years a bad heredity has been the cause of seriously impaired sight in 26 per cent of the entire number of pupils at the school for the blind; the 166 children in this category included 54 with hereditary cataract, 32 with hydrophthalmos, 27 with diffuse tapetoretinal degeneration, 27 cases of microphthalmos, 10 of retinitis pig-

mentosa, 6 of aniridia, 3 of anophthalmos, 3 of hereditary dislocation of the lenses, 3 of keratoconus and 1 case with bilateral coloboma of the optic nerve and iris. Many of these 166 children were related as brothers and sisters, fewer as cousins. One family of hereditary cataract in Missouri has been represented at the Missouri School for the Blind by nine juveniles coming from three generations; only members of the third generation from this family were present in the statistics above. Miss Francia I. Baird, Supervisor of the Prevention of Blindness Department of the Missouri Commission for the Blind has been able from her observations on hereditary blindness over the State, to construct numerous genealogical diagrams of families with hereditary eye conditions. Where three or more generations can be studied valuable data is available to determine the character of the inheritance of these ocular conditions, whether they act as dominant, recessive or sex recessive, and thus to compare findings with A. Franceschetti, of Basel, the German authority on hereditary ocular changes. It was estimated by Miss Elsie Roth, office secretary at the school, that 27 pupils coming from 7 families in the State with hereditary ocular disturbances had cost the State \$52,700 for their education.

Twenty-seven states have now legalized sterilization in the case of pronounced and permanent mental impairment. Sterilization is the only remedy to prevent the continuance of these hereditary ocular conditions.

Uveitis as a cause of blindness in Missouri both among children and adults ranks about fifth in importance, producing disabling disturbances of sight in 6 per cent of all the blind of the State. The only point I would protest here, is the past and present rather general failure in Missouri to consider tuberculosis as a possible etiologic factor in uveitis and the apathy in regard to tuberculin, when cautiously administered, as an effective remedy in the majority of cases of tuberculous uveitis.

The amount of blindness from sympathetic ophthalmia in Missouri can be accurately estimated only in those children who have attended the school for the blind. In the last 26 years it has continued to cause seriously defective sight of both eyes in 5 per cent of all the pupils. To prevent at least some of this sympathetic disease, I would strongly urge the early removal of the eyeball after a penetrating injury, if the eye begins to shrink, if it remains irritable and soft two weeks after the injury, or if, at the end of that time, the eye is irritable, without vision, or with imperfect light projection.

Although much more could be said, this will

complete a brief description of the accomplishments and present needs in the effort for the prevention of blindness in Missouri. It has been said so many times in this connection that an ounce of prevention is worth a pound of cure, that a few hundreds spent now in the prevention of blindness will later obviate the spending of many thousands in education, special training, welfare and pensions for the blind. The prevention of blindness, however, when all is said, is finally something far above a matter of money; it is our sacred aim as physicians to insure to every human being his inalienable right to enjoy the sunlight and the flowers, and the personal freedom that results from the preserved integrity of the five senses.

826 Metropolitan Building.

SPINAL ANESTHESIA * †

O. P. HAMPTON, JR., M.D.

ST. LOUIS

Spinal anesthesia, often called spinal analgesia, with improved technic and better understanding has become one of the safest and most generally applicable of all forms of anesthesia. In no other way can so extensive an analgesia be produced with so small a dose of drug and therefore there is less tissue reaction and toxemia than with other anesthetic drugs. Whatever popularity spinal anesthesia now enjoys was certainly not rapidly developed. It has passed through periods of commendation and then condemnation, but at present it is attaining the general usage and popularity it deserves. That it is not a panacea is not only conceded but emphasized; but that it is often the anesthetic of choice and should be at the command of every competent surgeon will be granted by even the most reluctant. It is no longer in the experimental stage. It will never be discarded again but there will be improvement in the future. Writers upon the subject have ceased to plead for its acceptance and are now pleading for a better understanding, especially of the contraindications which will greatly reduce the incidence of untoward results.

Corning of New York in 1885 produced the first spinal anesthetic, probably unintentionally as lumbar puncture had not been done at that time. He was attempting to produce an effect on the spinal cord by injecting a cocaine solution between the spinous processes. Bier in 1889 produced and reported 8 cases of spinal anesthesia upon himself, his assistant and 6

patients. He used cocaine through lumbar puncture. Following his publication, many attempted spinal anesthesia despite his warning that many cases would result in fatalities due to cocaine poisoning. These early bad results from using a toxic drug, crude technic and with little understanding, form a basis for the present day skepticism among some of our old and revered teachers who remember those unfortunate days and hesitate to try spinal again. With the appearance of stovaine and tropacocaine in 1904, spinal anesthetics were again given with somewhat better results. It was with stovaine that Babcock began his epochal work on the spinal cord. From that time, Babcock and others have worked with it with gradually improving results. The safety of spinal anesthesia was greatly enhanced when procaine hydrochloride appeared as novocain and with it a new era began.

From a physiologic standpoint it must be understood that the anesthesia is the result of the action of the drug on the nerve roots and not on the spinal cord. The anesthetic solution bathes the three types of nerve roots with corresponding effects. The anesthetic action on the posterior roots produces loss of pain, temperature, touch and muscle sense. The action on the anterior root produces loss of all motion, muscular relaxation and abolition of reflexes. Blocking these two roots produces the desired effect and is the basis of a long list of advantages of spinal anesthesia. Unfortunately, the sympathetic nerve roots are of necessity also blocked, the ill effects resulting therefrom being the basis of the untoward results which can occur. Blocking the sympathetic causes a vasomotor palsy in the affected areas which has been the supposed cause of the much talked of blood pressure drop; this drop is explained on the theory that the palsy causes a splanchnic dilatation that allows the blood to stagnate there thus reducing the volume of blood going to the heart and therefore reducing the blood pressure. In a recent article, Ferguson and North have shown experimentally that the vasomotor palsy is the principal cause of the fall in blood pressure, but it has also been shown that there is another undetermined cause. Blocking the sympathetic also causes increased peristalsis and loss of sphincter sense.

The advantages of spinal anesthesia need not be listed for the surgeon who has successfully used it. Having enjoyed the advantages, that surgeon is always anxious to use it again. The primary requisites of an anesthetic are, relief of pain and the prevention of surgical hurt or shock. The secondary requi-

* Read before the St. Louis County Medical Society, April 13, 1932.

† From the Department of Surgery, St. Louis County Hospital.

sites are, sufficient relaxation of the muscles and sufficient immobility of the viscera to perform the required operation. Spinal anesthesia certainly fulfills these requirements and in many cases fulfills them better than other accepted anesthetics.

The relaxation afforded is outstanding. The abdominal muscles literally fall apart. The intestines lie perfectly quiet except for a slight up and down movement due to diaphragmatic excursion. The intestines are markedly reduced in size giving additional room for operative manipulation. The entire abdominal cavity can be seen by merely lifting the sides of the wound. Each organ can be easily palpated and exposed.

The requisites of good technic are, gentleness, accuracy and speed in the performance of the operation; spinal anesthesia predisposes to them; there is no straining with subsequent packing and pummeling of the intestines thereby causing surgical shock. In 1914 Crile published his theory of anoci-association in the prevention of shock which has proved to be true. As we all know, anoci-association provides for the blockage of the steady flow of stimuli from the injured area toward the brain, thus preventing the development or progress of shock. Again, we know that all surgical operations produce shock to a greater or lesser degree. But during spinal anesthesia the nerve paths from the part or organ necessarily manipulated are completely blocked and surgical shock is much less likely to develop. This is an important factor in the proper handling of so-called "heavy abdominal surgery."

Other advantages are, absence of general toxemia, absence of respiratory, hepatic or renal irritation, and absence of postoperative nausea and vomiting. There is no dread on the part of the patient of "going to sleep." Unless the operation itself contraindicates, fluids may be taken by the patient up to the time of operation and on some occasions during it. Postoperatively, fluids may be taken by mouth immediately thus doing away with the painful hypodermoclysis. There is complete sphincter relaxation, a most desirable feature in rectal operations. The augmentation of peristalsis is a factor in the prevention of and occasionally the treatment of ileus. Babcock has brought out that granting all anesthetics to be depressing at some stage, the depression that may occur with spinal occurs during the early part of the operation when the patient is best able to stand it. The ease of operation should be emphasized, the desire for which is no reflection on the surgeon, as it is well known that a poor anesthetic can cause a

master technician to resemble a tyro. Ease of operation predisposes to gentleness, accuracy and speed, the factors of good surgery.

Unfortunately, spinal like other accepted anesthetics has its disadvantages. The foremost is the not infrequent failure, or the "partial take," which occasionally occurs even with the best technic. However, these are usually due to a faulty technic which can be overcome by study and experience. When a failure does occur the patient has been subjected to a fruitless lumbar puncture, time has been lost and the patience of the surgeon, his assistants, the anesthetist and the patient put to task. The duration or rather the lack of duration is another outstanding disadvantage. The usual duration varies between forty-five minutes and two hours, depending on several factors to be mentioned later. Therefore the spinal must occasionally be supplemented with an inhalation anesthesia. The blood pressure drop is an undesirable feature but this is largely controllable. Other disadvantages are, the occasional postanesthetic (postpuncture) headache, the limitation of anesthetizable areas, a diminished respiratory excursion and an occasional temporary postoperative spasm of the anal and vesical sphincters.

The indications for a spinal anesthetic must be determined by deducting the disadvantages from the advantages and weighing the result with the individual case. The indications may be roughly grouped into two classes, namely: (1) those cases in which spinal should be used, and (2) those cases in which spinal may be advantageously used.

Most writers agree that spinal should be used in the bad risk cases for operative procedures on the lower abdomen and lower extremities. It was by satisfactory performances in this group of cases that spinal became tolerated, then accepted and now appreciated. This group includes those patients requiring surgery who have acute or chronic pulmonary, hepatic or kidney disease, such as tuberculosis, bronchiectasis, pneumonia, bronchitis, cirrhosis, biliary carcinomata, nephritis, nephrosis, renal tumor, etc. When surgery is required below the diaphragm on patients with chronic valvular heart disease, there being no marked hypertension or decompensation, spinal should be used. Surgery in diabetics is much safer when performed under spinal anesthesia. Severe anemia in a case requiring operation is another spinal indication. Please let it be clearly understood that I am not attempting to broaden the indications for surgery in the bad risk case, but merely showing that spinal is the anesthetic of choice when a given bad risk

must of necessity be operated on. At this point it should be emphasized that spinal cannot replace local infiltration in the extreme bad risk case, and when the required surgical procedure on the extremely poor risk can be done under local infiltration without pain and subsequent shock caused by pain it should be so done. For example, the last stage of intestinal obstruction when enterostomy is the procedure of choice is much safer under local. Likewise, in the terminal stages of carcinoma of the esophagus when a palliative gastrostomy is to be done it should be done under local. Local is the safer anesthetic in the patient with myocardial decompensation bad enough to produce edema and ascites.

The so-called heavy or shock-producing surgery of the abdomen and lower extremities should be done under spinal. This type of surgery includes amputations, open reductions, hip joint operations, prostatectomies, colon or rectal resections, ventral herniorrhaphies, radical hysterectomies, lumbar laminectomies, some nephrectomies, and other cases. Spinal in this type of surgery affords ease of operation by the complete relaxation obtained thereby tending to prevent operative shock—an important factor in the so-called heavy surgery. It allows these cases to return to their rooms awake and in comparatively good condition instead of shocked and completely etherized.

Several acute surgical conditions should be operated on under spinal, including strangulated herniae, ruptured peptic ulcers, cysts with twisted pedicles, penetrating wounds of the abdomen and some acute intestinal obstructions. It is claimed by some that penetrating abdominal wounds should not have spinal as the hyperperistalsis supposedly causes increased spill of intestinal contents, and if resection is necessary the intestine is supposedly so contracted that it interferes with subsequent anastomosis. However, this has not been our experience and we believe the many advantages overshadow the disadvantages. We have noticed no increased spill and if intestinal resection is necessary a lateral anastomosis can easily be done, the size of the gut not interfering.

Those cases in which spinal may be advantageously used include all operations below the diaphragm in the good risk cases. It is in this type that one may make use of the many advantages without fear of untoward results. The blood pressure drop is practically nil. Genito-urinary and gynecological surgery are especially suited to spinal anesthesia. All forms of hernia lend themselves well to spinal.

In rectal operations it is the anesthetic of choice as the marked sphincter relaxation is a desired feature.

It has been said that the best surgeon is the one who knows when and what not to do. Similarly, the surgeon who knows when not to use spinal anesthesia will profit most as there are definite contraindications. For many years a low blood pressure was considered the outstanding contraindication but of late we have learned that those patients whose blood pressure normally runs around ninety or ninety-five systolic are good spinal risks; in fact, much better risks than those with a marked hypertension. Patients with an acute hypotension due to shock or hemorrhage are very bad spinal risks. Hypertension ranging above thirty points systolic over the normal is a contraindication and the risk increases in direct proportion to the degree of hypertension. The higher the systolic pressure the greater the anticipated drop when spinal is given. A broad pulse pressure is not in itself a contraindication, but the underlying cause should be ascertained and considered before spinal is chosen. We believe that extreme toxemia is the greatest contraindication. This is exemplified by a toxic general peritonitis, puerperal sepsis, last stage intestinal obstruction, toxemias of pregnancy, acute myocardial decompensation and uremia. It was in this group of cases that spinal was given promiscuously several years ago with many fatal results. Further study and observation have shown them to be cases for nonoperative treatment or operation under local infiltration. It has been the experience of many men that the neurotic psychotic patient should not have spinal anesthesia as it is in this type that partial failures are prone to occur because the patient complains and strains at the sensation of touch which is very often present without pain.

The complications of spinal anesthesia are divisible into (1) the immediate or operating table complications, and (2) the remote or postoperative complications.

The outstanding operating table complication is the blood pressure drop; this is to a great extent preventable and controllable by the use of preoperative ephedrine and the Trendelenburg position. Occasionally, a small dose of adrenalin may be given if the blood pressure drops sharply though it probably is unnecessary. In the bad risk a venoclysis may be indicated to combat the blood pressure drop and the poor general condition. Nausea and vomiting are other table complications. They soon cease, especially if the patient is made to

breathe deeply and to inhale aromatic spirits of ammonia. There will be no respiratory difficulty if the line of anesthesia is kept low. Theoretically, we should have respiratory paralysis if the anesthesia involves the cervical nerves, but Koster reports head operations done under spinal anesthesia and the writer has seen anesthesia to the upper lip without ill effect. However, it is safest not to allow the line of anesthesia to come above the nipple line; this can be prevented by several factors to be brought out later.

The outstanding postoperative complication is the postpuncture headache. This is largely preventable by proper technic and postoperative care. Other complications are, temporary difficulty in voiding (no more than with inhalation anesthesia) and dizziness, which is transitory. Latent shock has been listed as a complication but this is due to the operation and not to the anesthetic. Early in the work on spinal, abducens palsy and sterile meningitis were complications but with improved technic, better drugs and better understanding these are not occurring. Deaths have been reported but they are not clearly understood. They may occur with any anesthetic and as most of the so-called spinal deaths have been in the extremely poor risk cases we feel that the fear of death from the spinal anesthesia is unfounded if the anesthetic is properly handled and understood.

The preoperative preparation for spinal is the same as for an inhalation anesthesia. An appropriate dose of morphine with atropine or hyoscine, preferably the latter, should be given forty-five minutes prior to the operation. The hyoscine deadens the patient to the sensation of the lumbar puncture and often allows closure to be done without supplementary anesthesia should the spinal wear off. The eyes should be covered with gauze pads before the patient leaves the room.

Beginning with cocaine, many drugs have been used for spinal anesthesia, but procaine, by its trade names novocain and neocaine, has proved the safest and most satisfactory and is the basis of most of the anesthetic solutions now used. Of late a new drug known as nupercaine has appeared. Its manufacturers claim low toxicity, certain anesthesia and duration of from four to six hours. It was hoped that nupercaine would settle the problem of duration but in our hands it has not proved satisfactory due to frequent failures.

The specific gravity of the drug solution used in relation to that of the spinal fluid is an important factor always to be considered.

Based upon this specific gravity relationship, we have the so-called light and heavy anesthetic solutions which theoretically rise or fall in the spinal canal according to the position of the patient and the specific gravity of the solution. The most prominent of the light solutions is Pitkin's spinocaine, a novocain alcohol starch solution. Pitkin's work with spinocaine did much to popularize spinal anesthesia. The anesthetists and surgeons of this country were impressed with the theoretical safety of spinocaine and found it to be safe practically. Of course, the outstanding feature of spinocaine is that the patient can be put in Trendelenburg to counteract the tendency towards hypotension without advancing the height of the anesthesia. Other men, the foremost of whom is Labat, soon demonstrated experimentally and clinically that a heavy solution could be used with equal safety and, it was claimed, with more certainty of anesthesia. Therefore, procaine as novocain or neocaine dissolved in the spinal fluid became the most popular anesthetic solution and is now the most generally used. A few men still dissolve the novocain crystals in distilled water and inject the solution into the spinal canal. We prefer spinal fluid as the solvent as the technic is simplified and a minimum amount of foreign material is injected into the canal.

The dosage of novocain varies between 50 and 250 mg., the usual dose being 120, 150, or 200 mg. according to the height and duration desired. The dosages of spinocaine and nupercaine may be calculated in c.c. of the stock solution or on the milligram content of a given amount of the stock solution.

A small needle with a short bevel should be used. The smaller the needle the less danger of leakage of spinal fluid after the puncture; this will decrease the incidence of postoperative headache. The short bevel insures the entire needle opening being in the canal. With a long bevel the opening may be half in and half out allowing the anesthetic solution to be injected extradurally. This is a cause of failure and partial take.

The spinal puncture may be done at any point between the tenth dorsal and the fifth lumbar. Many men prefer to do the puncture in the lower dorsal region when high anesthesia is desired. However, we with many others prefer the third or fourth lumbar because at these levels puncture is easier, there is no danger of injury to the cord and just as efficient anesthesia can be obtained. Pitkin believes that some of the early deaths were due to injecting the solution into the spinal cord

itself. The patient may be in either the sitting or lateral recumbent position. We prefer the latter as it is less disturbing to the patient. Patients in the sitting position have been known to faint and fall from the table. However, one should not hesitate to use the sitting position if the spinal puncture in the lateral recumbent is unsuccessful.

The factors which determine height and duration are the most important to be considered. The height of the anesthesia depends upon (1) the amount of anesthetic drug used; (2) the amount of spinal fluid used; (3) the position of the patient in relation to the specific gravity of the anesthetic solution; (4) the force of the injection into the spinal canal; (5) the point of the spinal puncture.

The higher the anesthesia is desired the more drug and spinal fluid are to be used. The solution is injected more forcibly into the canal and using the usual heavy solution (novocain crystals in spinal fluid) the patient is immediately put in Trendelenburg position. The duration is in direct proportion to the amount of drug used and inversely proportional to the height. Therefore, the higher the line of anesthesia the shorter the duration unless there be sufficient compensation by the increase in the amount of drug used. Thus, desiring an anesthetic for a hard gallbladder operation which is calculated to require one and one half hours, 200 mg. of novocain dissolved in 5 to 6 c.c. of spinal fluid would be somewhat forcibly injected into the spinal canal at the third lumbar space and the patient immediately put in Trendelenburg position which tends to cause the line of anesthesia to extend up toward the head. The latter step is very important when high anesthesia is desired. It has been proved that all the novocain is fixed in the tissues of the nerve roots in about seven minutes. Originally, when using the heavy solution, that is, novocain in spinal fluid, it was deemed advisable to leave the patient level for seven to ten minutes to avoid ascension of anesthesia to the medulla. However, it has since been proved clinically that there is no danger of sending a carefully guarded anesthesia to the medulla if the Trendelenburg position is assumed immediately, and certainly failure is less likely to occur. The line of anesthesia should be closely watched; should it reach the nipple line before ten minutes has expired the patient should be put level until the ten minutes has passed and then the head lowered according to the amount of blood pressure fall. After ten minutes all the Trendelenburg desired for the operative pro-

cedure may be had without danger. If one is to take advantage of the Trendelenburg position in raising the height of anesthesia, it must be done in the first five to seven minutes after injection. If one desires midanesthesia, as for an inguinal herniorrhaphy calculated to require one hour, 150 mg. of novocain in 4 c.c. of spinal fluid would be injected slowly in the fourth lumbar space and Trendelenburg immediately assumed, the line of anesthesia being closely watched during the first ten minutes. For a one hour operation on the lower extremity, 120 mg. of novocain should be slowly given in the fourth lumbar space and the patient left level for ten minutes after which the head could be lowered according to the blood pressure.

It is generally believed that ephedrine preoperatively prevents or greatly lessens the fall in blood pressure by constricting the peripheral arterioles, thereby preventing cerebral anemia and its consequences. However, of late it has been contended by some that ephedrine defeats its own purpose by constricting the peripheral arterioles in the brain and therefore should not be used. These men combat the tendency towards hypotension by only the Trendelenburg position. Most workers do use ephedrine, and it has been clearly demonstrated clinically that ephedrine does prevent or lessen the blood pressure fall and that patients who have had ephedrine before spinal do much better on the table. This is especially true in the poor risk cases, the outstanding indication for spinal. It does seem that if the blood pressure is kept higher, fresh oxygenated blood will be carried to the brain cells more often and cerebral fatigue lessened. Ferguson and North in their recent complete experimental work on spinal have clearly shown that ephedrine does sustain the blood pressure and advise its use. We use ephedrine preoperatively in 50 mg. doses. It is estimated that with the use of ephedrine the blood pressure fall in low anesthesia is nil, in midanesthesia is from 10 to 30 points systolic and in high anesthesia is from 20 to 50 points systolic. However, these drops can be counteracted by the use of the Trendelenburg position, the degree depending on the drop in pressure. Preoperative ephedrine and the Trendelenburg position have made spinal anesthesia controllable and are responsible for its present day popularity.

Our routine technic is as follows: The skin of the lumbar region is prepared with iodine and alcohol and the skin over the third or fourth lumbar space is injected with 1 per cent novocain solution containing 50 mg. of eph-

drine. We consider this an excellent time for giving the ephedrine. Puncture is done with the small short beveled needle described above. The spinal fluid is allowed to drip into the sterile ampule containing the determined dose of novocain. When the desired amount of fluid has been obtained and all the crystals dissolved, the solution is reinjected into the canal at the required speed and the patient put in a position according to the desired height. The anesthetist then repeatedly tests the line of anesthesia by pinching with an Allis clamp. Should anesthesia reach the nipple line before seven to ten minutes have elapsed, the patient is put level as stated above. It is interesting to us that we have not had to "level a patient" to prevent the anesthesia from ascending too high since our hospital opened. Should nausea occur the patient is made to breathe deeply and a sponge of aromatic spirits of ammonia is held to the nose. The preparation and draping of the patient should be rapidly but of course thoroughly done so as to conserve more anesthesia time for the operation. It is advisable not to waste time ligating the skin bleeders but to leave the clamps on during the intra-abdominal procedure; at the time of closure they can be removed without subsequent bleeding as the blood has had time to clot. Blood pressure readings are taken every three minutes during the first fifteen minutes after injection and every five minutes thereafter. Should the hypotension exceed the expected, a greater degree of Trendelenburg is assumed and if necessary a small dose of adrenalin is given.

Postoperatively, the foot of the bed is elevated for about three hours as a precaution against headache. For the same reason a pillow is not allowed during the first twenty-four hours. Unless the operation itself contraindicates, water may be taken orally immediately. Every two hours during the first twenty-four, the patient is made to breathe deeply or is given carbon dioxide inhalations in an effort to distend all the alveoli which will tend to prevent the occurrence of pulmonary complications.

In conclusion, allow me to call your attention again to the many advantages of spinal anesthesia and again to warn you of the many definite contraindications. If spinal is chosen for cases which do not manifest contraindications, the advantages will be manifold and the results excellent. But if used indiscriminately, alarming results may occur and the increasing good name of spinal anesthesia will be unfairly blotted.

6635 Delmar.

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ACUTE PHARYNGEAL INFECTION*†

MANAGEMENT AND FACTORS INVOLVED

JAMES B. COSTEN, M.D.

ST. LOUIS

Acute pharyngeal infection is any fresh lesion of the pharyngeal mucosa, from the upper limit of the nasopharynx to the first constriction of the esophagus. It immediately includes all zonal lymphatic glands and pus extension into retropharyngeal, parapharyngeal and deep cervical spaces. It is the most sensitive barometer of many entirely general physical conditions. The majority of all human afflictions begin with an acute pharyngeal infection, or develop one during their course. The frequency of this trouble has made the human race extremely throat-minded, the pharynx being the first object of attack by bacteria, the patient and the physician. The best assurance of successful issue, after surgery, about the acutely infected pharynx is to have marshalled beforehand its forces of defense, with the physiology of its infected mucosa constantly in mind.

The classification¹ of acute nonspecific inflammation of the pharynx broadly falls into two groups: (1) Simple, or superficial catarrhal sore throat, produces an increased output of lymphocytes and leukocytes without destruction of the epithelium; (2) the parenchymal group embraces all further extension of

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† From the Department of Otolaryngology, Washington University School of Medicine.

infection, with edema, ulceration or regional involvement of glands and tissue. The classification does not include specific primary lesions of the pharynx, the chemical pharyngitis resulting from the reexcretion of acid urates in gouty and rheumatic cases, or the intense chemical irritation from continued vomiting of pregnancy. Into the parenchymal group seem to fall everything from acute follicular tonsillitis to phlegmon of all related structures, and even the ulceration and gangrene which go with agranulocytic angina. Frequently, the history of an individual contact, a small hospital or neighborhood endemic, points to these groups as contagious by bacterial transmission. That the most important factors in parenchymatous infection of the pharynx are general, however, and that what we see in the pharynx is secondary is becoming increasingly more evident. We have abundant laboratory records² that the normal bacterial flora of the mouth and pharynx include streptococcus hemolyticus, streptococcus viridans, pneumococcus, staphylococcus, Vincent's organisms, diphtheroids, etc. The pharynx is host to these without incident until it reacts to some profound general change as follows:

The general changes which dispose toward activation of the bacteria of the pharynx range through fractures of the long bones, macerating bruises, wounds with large hemorrhage, concussion, wasting disease, profound emotional shock, continued or overdose medication, chilling of extremities or body surface, and in old people of low vitality the well known lack of tonic exercise when lying in bed with fracture or inactive illness. The phlegmon following alcoholic debauch is probably a chemical effect on the mucosa at first.

Approach to the solution of the fundamental mystery of pharyngeal reaction to systemic change has been slow and is not yet complete. Even if pharyngeal changes are the secondary phenomena in agranulocytic angina, we have yet no hint of the exact mechanism.

It has been common knowledge always, that exposure to cold is a constant factor in sore throat and nasal infection. It was first estimated in a quantitative way by Mudd, Goldman and Grant,³ who showed that chilling of the body surface induced a change in surface tension of the mucous membrane. This change allows an organism which is regularly present in a benign way suddenly to invade tissues deeper than the mucosa.

All the severe forms of throat infection were grouped by Semon⁴ in 1895 as degrees of virulence of the same pathological process, the anatomical behavior being always the same.

"Streptococcus is the organism most often found. It is at first an infection of the connective tissue beneath the mucosa, and is thought to have gained entrance through the capillary spaces."

Wright and Goodale⁵ showed in 1897 that a dye placed on the tonsil surface took the direction of the efferent lymph channels, that it was admitted to the intercellular spaces but the bacteria of the crypts were kept out. Wood⁵ in 1914 working with the tubercle bacilli, and Warthin⁵ in 1923 confirmed this selective transfer through pharyngeal epithelium and the intercellular course of the particles admitted. Wright had originally urged search for the mechanism associated with electrodynamic forces of lipoids and proteins in the mucosa. An understanding of these reactions would explain the selective action of the mucosa as the first line of defense against disease. Alteration of surface tension of the epithelial cells is the first step in allowing bacterial invasion. It is an electro-endosmotic phenomenon, according to the recent experiment of Mudd,⁶ in which a culture media containing bacteria was driven through an artificial membrane by electricity. It is not intended to prove what actually happens, but is offered as explanatory of a mechanism by which all the mucosa of the pharynx may suddenly be invaded. Some central molecular change may take place which alters the charge in the walls of the capillary spaces and permits a change in the rate of endosmotic stream. The selective function fails, the tissue becomes stagnant and the mechanism of edema supervenes.

Landis⁷ has shown that it is the lack of oxygen on capillary permeability which allows the escape of fluid into the tissues. He⁸ has shown that capillaries injured by alcohol are permeable to the plasma colloids and seven times more permeable to fluid than the normal capillary wall. This proceeds at an amazing speed in pharyngeal tissue. Within a few hours after a feeling of fatigue and fullness in the throat, as after an alcoholic debauch, the patient is in a septic condition. Spots of the pharynx and uvula become edematous, a soft waterlogged tissue. Swelling about the tonsil may simulate quinsy but no pus pocket may be found. The remarkable thing about this involvement of tissue is that there is no cellular reaction of the tissue for defense.

It is quite likely that pharyngeal edema is predisposed by changes also in the intima of capillary walls from serological disease. We are all accustomed to the gelatinous, painful pharyngitis which the leukemic case develops. His bleeding tendency and edema seem to be

the result of capillary permeability. Cases of old syphilis are a corollary in this respect. An example of the few I have had follows:

REPORT OF CASE

O. H.,⁹ 43, a salesman, very active in his work, had a severe throat infection every winter. He came to me with one of the attacks, having driven four hours in the cold. This was his daily routine, with no unusual exposure. He complained of sudden soreness, choking, hoarseness and fever. All faucial structures and palate showed obstructive edema. He was placed in hospital and tracheotomy precautions ordered. My attention being on the acute infection, only such blood counts were ordered as seemed relevant to the acute infection. No Wassermann was made. After a septic, stormy course, threatening edema of the larynx, he recovered. One year later, with exactly similar history, he returned with the same type of attack. This time in Barnes Hospital, all routine blood work was done without order. Wassermann was 4 plus the infection dating from 12 years previously and was untreated. Antiluetic treatment was given and he has been observed regularly. In three more winters he has not had recurrence of the septic sore throat. Since then I have found old untreated lues in several most unlikely cases, each with a tendency to acute throat infection.

Many cases of profound infection of the pharynx have their origin in tonsillitis of severest grade. A few follow chemical irritation, as ingestion of strong alcohols. Cases going on to deep cervical infection so often follow tonsillectomy with local anesthesia that Shapiro,¹⁰ in a review of all cases reported to 1930, states it to be "almost exclusively" a complication of this procedure. An occasional case has followed the extraction of an upper molar tooth, usually in the presence of acute infection, some in diabetics and some in patients of very low vitality. Shapiro summarizes the cases reported by Dean, Kofler, Baum, Wood, Gunther and Herrman, in which the factors responsible were given as, (1) severe trauma to the superior constrictor with devitalizing of tissue and infection by contiguity; (2) activation of a latent process in the peritonsillar tissue by operation; (3) state of low vitality of the patient, and (4) the form of local anesthesia. The last is the greatest factor of all, since only five of 110 cases on record occurred after general anesthesia. The nearness of the parapharyngeal space to the capsule of the pharyngeal tonsil accounts for the ease with which infection might be misdirected, and bacteria, which are usually staphylococcus aureus in a mixture of other mouth flora, may be passed deeply into this region. Thrombi from the tonsillar veins have been mentioned (Fetterolf and Fox) but seem to produce systemic complications rather than lodge in the parapharyngeal space. Uffer-norde¹¹ considers lymphatic extension to be

the most important route, (a) through sup-puration of the deep cervical nodes adjacent to the carotid sheath and those on the posterior belly of the digastric, and (b) as a lymphangiitis (as Dean's third case). Tissue invasion after tonsillar infection, presumably a burrowing abscess which breaks into the vein, has accounted for several cases of phlebitis of the jugular vein, six of which are reported by Dixon and Helwig.¹² Three of these previously had incisions about the tonsils with no effort toward localization before the incision. These cases clearly show the danger of trauma too early in throat infection and the masked course of some cases of tonsillitis which may begin mildly.

Thrombophlebitis of the internal jugular vein and pus invasion of the pharyngomaxillary space is the evident course of each of these cases. If recognized early enough they warrant prompt external approach and resection of the vein, if necessary.

Suppuration in the retropharyngeal spaces, common to children in the strumous age, almost invariably follows nasal infection without apparent throat involvement. It first localizes high behind the pharynx at the site of two pairs of large lymph glands, which lie either close beneath the atlas or as low as the second cervical vertebra. It proceeds as a pus extension beneath the pharyngeal mucosa and constantly involves the pharyngomaxillary fossa adjacent. The great vessels in this space lie in easy range for phlebitis, which is frequent, and hemorrhage.

A recent review of the literature by Lifschutz¹³ shows 23 cases of serious or fatal hemorrhage following evacuation of these abscesses. Twelve were from erosion or rupture (?) of the internal carotid artery and one from the jugular vein or tributaries. Lifschutz does not mention the chance of injury to the vessels by the operator's knife. If we ascribe some of these 13 cases to incision of vessels, it would seem logical that more of them would be arterial than venous since the latter has more chance to fill with clot or collapse.

Some clear anatomical descriptions of the retropharyngeal spaces (Wishart¹⁴) and the pharyngomaxillary fossa (Mosher¹⁶) remind us of the central position these great vessels occupy in the spaces and their vulnerability to infection, erosion and injury. Dean¹⁵ (1919) urged external approach to retropharyngeal pus through the upper part of the pharyngomaxillary fossa. Mosher¹⁶ has clearly displayed the ease of submaxillary approach to the pharyngomaxillary fossa. He gives an axiomatic rule that if a child's course remains

septic a few days after evacuation of retro-pharyngeal pus, thrombosis of the internal jugular vein should be suspected.

Speed of extension of pus from the region of the parapharyngeal spaces to the mediastinum was emphasized long ago by Marshik and Hajek who urged a lower, more extensive external drainage, amounting to a mediastinotomy, packing off below to avoid extension.

The close relation of Ludwig's angina to the problems of the pharyngeal region merits men-

localized by frequent irrigations of hot saline solution, and incision, first through the mucosa of the floor of the mouth, is carried with a blunt forcep mesially and backward into the parapharyngeal space. If sepsis rapidly increases and extension is evident, of course external drainage of neck and submaxillary region with wide incisions is indicated.

The safety factor in the management of all acute pharyngeal infections is localization. The universal localizing agent is moist heat and a

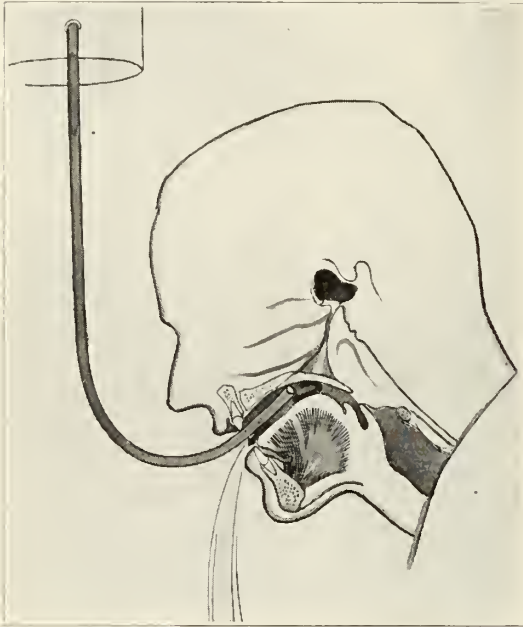


Fig. 1. Showing position often employed for irrigation. Black arrow indicates route probably taken by solution, the soft palate preventing its access to pharyngeal tissue.

tion here; especially since examining the anatomy of the floor of the mouth in the study of Ludwig's infection, we have noticed the ease with which a forcep may be passed by this route to the pharyngomaxillary fossa. The usual anatomic description of the deep part of the submaxillary gland is that it springs from the medial surface of the superficial part, bending around the posterior border of the mylohyoid muscle. It is just mesial to and below this deep part of the gland that the lymph glands of the deep parts of the tongue find their exit to the cervical chain. (Blassingame.¹⁷) This spot marks a weak area in the fascial support of the floor of the mouth and easy access to parapharyngeal pus. Certain milder cases of cellulitis of the floor of the mouth, especially of dental origin, may be drained by incision between the tongue and molar teeth. The region is first vigorously



Fig. 2. Showing most effective position for irrigation. The tip of plain rubber tube is held by the patient and fixed between the molar teeth. Gagging usually means that the tip is too close to the pharyngeal wall, or that the head is not prone enough to allow the exit of solution.

hypertonic substance. This is adapted to use in the pharynx by treating with large volumes of hot hypertonic salt solution, a half gallon hourly. Twenty-four to forty-eight hours of irrigation either abort the progress of infection or make the incision for drainage infinitely safer and more effective. Inducing further hyperemia in an already crowded pharyngeal space would seem to be risking obstruction to the larynx. The contrary most often occurs; some comfort to the patient may be gained by following each treatment of hot saline with ingestion of a small quantity of cracked ice.

SUMMARY

Activity of most acute pharyngeal infections depends on general systemic change. Fluid

intake is restricted or prevented by the pain of swallowing and must be maintained by other routes. Intravenous, subcutaneous, or suprapubic routes must be utilized for fluid support.

Pharyngeal tissue not showing resistance to the infection by firm cellular reaction, should cause prompt investigation as to leukocyte change, and a Wassermann made.

The efficiency of hot hypertonic solution probably depends on the direct salt effect on the mucosa with removal of tissue fluid, and by producing hyperemia more oxygen is supplied to the tissues which retards the development of edema. (Landis.)

Diphtheria and pneumococcus infection, with membranes, do not seem to be affected by irrigation treatment. Treatment of diphtheritic infection of the pharynx depends entirely on the well known early use of antitoxin. Most cases of membranous infection of the pharynx with pneumococcus, types I and II, respond to the use of intravenous or subcutaneous serum; 10,000 units of each are given as a combined dose twice a day and continued for two to three days only. Tolerance to this treatment is carefully watched after the first dose.

When acute pharyngeal infection has progressed to involvement of deep cervical planes, the course of safety lies in external drainage, with liberal access to submaxillary and carotid sheath spaces.

722 Beaumont Medical Building.

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INDICATIONS FOR CESAREAN SECTION *

W. C. GAYLER, M.D.

ST. LOUIS

Every scientific paper must justify itself by a new idea or a new point of view. A mere repetition of the things that appear in the textbooks or that are generally known in the profession is not enough. A very wide difference of opinion in regard to the indications for cesarean section exists today and every man with a large clinical experience should express himself freely. Recent improvement in surgical technic has made the opening of the abdomen such a simple and safe procedure that, in the absence of serious illness, the danger seems almost negligible. The giving of the anesthetic as formerly done seemed a more important procedure than the laparotomy. The extreme ease, simplicity, safety and comfort of an abdominal delivery if performed before the membranes rupture, have most certainly led to abuse of this operation. Patients who were obstetrical nurses before their marriage almost invariably demand a cesarean delivery before actual labor starts. Fortunately, this is usually refused as routine cesarean without indication is out of the question in the present state of our knowledge.

We probably have only one absolute indication for abdominal delivery, and that is distinct disproportion in size between the pelvis and the fetus, such as a very large baby, a very small pelvis, a distorted pelvis or a combination of these conditions. In the presence of an absolute indication of this kind everybody in the delivery room is happy, from the man in charge down to the youngest student nurse, because the delivery is simple, painless and free from danger. When we have a relative indication and do not seem quite justified in making an abdominal delivery, but seem to be facing a hard and complicated delivery, the atmosphere in the obstetrical floor is not so cheerful. Flat pelvis, generally contracted, distorted or funnel-shaped pelvis will not be discussed here, nor can I answer the question, "Just exactly

* Read at the 75th Annual Meeting of the Missouri State Medical Association, Jefferson City, May 23-26, 1932.

how small must the true conjugate be to make cesarean section imperative?" Obstetrical practice does not lend itself to the making of rules and now as formerly each patient presents problems that must be solved in an individual manner. The ability to estimate the size and conformity of the fetus and especially the presenting part is as important as the estimation of the pelvic measurements, the thickness of the pubic arch, the character of the sacral promontory and the bi-ischial diameter. The induction of labor five or six weeks before delivery is no longer the popular procedure it formerly was, but it is still occasionally done with good results. Our technic of the induction of labor has been at a standstill for ten years, probably because we do not know what it is that starts labor. Our knowledge on this subject seems to remain stationary. Roentgen ray pictures are becoming increasingly helpful in the diagnosis of absolute indication for cesarean. One absolute rule for cesarean exists now as it has always existed; namely, that the infant must be alive and capable of continuing its life. We are not justified in making abdominal delivery in the presence of an anencephalic monster or other distorted product of conception that cannot survive. Nor do we perform cesarean if prematurity exists to such an extent that the continued life of the infant is improbable. It was formerly customary to permit patients with doubtful indications for cesarean to go through the so-called test of labor before performing the section. Sometimes the woman delivered via the vagina, more often she was completely exhausted, possibly infected and surely a poorer surgical risk than she was before labor started. The test of labor, it must be remembered, does not start till the dilatation is complete. I shall say nothing about the technic of abdominal delivery as all the different methods are simple and easy, and I suggest that the operator do the operation with which he is most familiar. One little point I would like to stress, a hypodermic of ergot given two or three minutes before the external incision is made, often makes the uterine incision bloodless. The technic of cesarean should not be considered the technic of one person as the procedure is in the hands of about five people. Anesthetist, assistant, resuscitator and operating room nurses must act with a certain sort of teamwork or the technic is not good.

TOXEMIAS OF LATE PREGNANCY

Patients with preeclamptic symptoms, when put to bed and given proper treatment, often entirely recover and proceed to a normal delivery. Some have eclamptic seizures in spite

of all treatment. These are very poor subjects for abdominal delivery. As all other methods are proportionately dangerous, even here cesarean must occasionally be performed. Sometimes we have a patient who has no eclamptic seizures but does not improve under appropriate treatment. In the so-called nephritic type of toxemia with normal blood pressure, hyaline and granular casts, albuminuria and edema, particularly in a primipara and also particularly when beyond her time, cesarean section quickly and easily solves this problem in properly selected cases.

THE ELDERLY PRIMIPARA

The elderly primipara frequently has a prolonged and difficult delivery, and also a prolonged and difficult third stage. This does not justify an absolute rule that all of them are entitled to cesarean delivery. In the presence of any other complication, as a small bi-ischial diameter, a rather prominent sacral promontory, lack of muscular tone or a very large fetus, the patient is certainly entitled to this easiest of all deliveries. Two things must be borne in mind, i. e., the infant's life is particularly precious as it is probably the woman's last chance and the uterine scar is of no consequence for she will probably never be pregnant again.

PLACENTA PREVIA

Marginal placenta previa is sometimes treated with the dilating bag and sometimes the descending head stops the bleeding, leading to an easy spontaneous delivery. Central placenta previa, with the immense, boggy placenta forced into the funnel-shaped lower segment, always calls for cesarean section. The placenta takes up so much room that the head is excluded from the pelvis. Vaginal manipulations cause a dangerous loss of blood from both patients, the mother and fetus, and if you have ever looked at a placenta of this kind from above you will never hesitate again. A blood transfusion during the operation is often necessary, but the final results are startlingly good and the indication is almost absolute.

HISTORY OF A DEAD BABY

A woman having had several dead babies without demonstrable cause must be treated very circumspectly during subsequent deliveries. Sometimes a cesarean gives her a living child after every other method has failed.

FIBROIDS

Subserous fibroids rarely interfere with pregnancy but may make it impossible for the presenting part to enter the bony pelvis. Here, cesarean gives an ideal solution, the minute de-

tails of the diagnosis being often made during the operation.

TRAUMA

Gunshot wounds, stab wounds, automobile accidents and other abdominal injuries sometimes make an indication for a cesarean delivery.

THE IMPACTED TRANSVERSE

We have here a woman whose membranes have ruptured, who has been in labor for some time and who has at least a partial dilation of the cervix. The operation is not as easily performed and the possibilities of infection are increased but occasionally cesarean seems the logical procedure.

CONGENITAL DEFORMITY

Congenital deformity such as the simple form of double uterus sometimes produces a condition that justifies cesarean. The accurate diagnosis can only be made during operation.

EXTREME DEBILITY

A woman who has been in bed with a wasting illness for four or five months before her delivery time, for example a compound fracture of one of her long bones, is not always a good subject for vaginal delivery. Here occasionally we can deliver her with less trauma by the abdominal route.

DISCUSSION

One of the great problems of obstetrics today is the element of time as it applies to the dilating stage. We can increase the intensity and frequency of the uterine contractions; we can incise the cervix or manually dilate it in emergency; we can even produce a condition of semiconsciousness after which the woman forgets about her pains, but we can completely eliminate the element of time in the first stage in only one way, and that is by cesarean section. This alone is a tremendous achievement.

We have, then, a safe, rapid, painless method of delivery that does away with all the horrors that formerly existed. It is quite natural that this method has been abused, especially as many women are beginning to demand this type of delivery. The principal objection to the indiscriminate use of cesarean is that it leaves a woman with a laparotomy scar as well as a scar in the uterus. No matter which type of operation is performed, this uterine scar is an undesirable thing and may make trouble during a subsequent delivery. If we could be absolutely certain that the patient would never become pregnant again, that might be considered an added indication for cesarean section.

802 Missouri Building.

ROUTINE BASAL METABOLISM

VALUE IN THE EXAMINATION OF PATIENTS*

A. L. ANDERSON, M.D.

SPRINGFIELD, MO.

Of all the glands of internal secretion the thyroid is one of the most important. Besides its control of metabolic processes, body growth and mental development, it evidently has a great deal to do with the fight of the body cells against infectious disease. It is thought that influenza is one of the diseases that cause the greatest activity of the thyroid. So great is this activity that even after the patient recovers from influenza the increased work of the thyroid gland continues, resulting not infrequently in thyrotoxicosis. The patient often dates the beginning of his symptoms peculiar to hyperthyroidism to just after an attack of influenza. Overactivity of the thyroid gland causes such symptoms as rapid heart, extreme nervousness, profuse sweating, tremors, weakness and sometimes marked gastro-intestinal disturbances, such as vomiting and diarrhea. A lack of thyroid secretion has also a train of symptoms which, while the opposite of hyperthyroidism, still affect the health of the patient. Often he is subject to chronic eczema, constipation, muscle pains in the back that are worse at night. The intensity of his symptoms as a rule are in proportion to the loss of thyroid action as revealed by a low basal metabolic rate. The skin is dry and thick; the hair falls and especially the outer third of the eyebrows may disappear entirely; he is drowsy; feels keenly cold weather; requires but a small amount of food and even on a very low caloric diet may show a marked gain in weight. If the thyroid gland ceases to function, as in myxedema, his face takes on a peculiar expression, the leonine type, and his mental processes are very much retarded. This extreme condition, however, is rarely met with in this country. The response to thyroxin or thyroid extract is nothing short of miraculous; that is, if the condition has not developed until after adult life is reached.

There are varying degrees of hyperthyroidism and hypothyroidism, however, which cause ill health that often go unrecognized unless a basal metabolic rate determination is done.

In calculating a basal metabolic rate we take as a basis the average basal metabolic rate for normal individuals at a given height, weight, age and sex. However, as with normal weight, certain variations are allowed above or below the normal rate, that is ten minus to ten plus is considered within normal limits. In toxic

* Read at the 75th Annual Meeting of the Missouri State Medical Association, Jefferson City, May 23-26, 1932.

goiter as a rule the rate is plus and may be as high as 130 plus. A rate of 20 plus to 30 plus is considered as indicating mild hyperthyroidism, from 30 to 50 plus, moderately severe, and from 50 plus up the exceedingly toxic cases with marked symptoms, such as loss of weight, rapid heart rate (120 to 160), profuse sweating and extreme nervousness associated with tremor and general weakness. I will not go further into the symptomatology of hyperthyroidism as the purpose of this paper is not to discuss goiter but to consider the value of basal metabolic rate determination in other conditions.

Only a few years ago the estimation of basal metabolism was confined principally to the larger hospitals and was done mainly on toxic goiter patients and on cases of suspected myxedema. During the past two years I have run basal metabolism tests on practically all the patients who have consulted me for complete examination. This has been routine regardless of the patient's complaint. The milder cases (minus 15 to minus 20) may have but a few symptoms, such as dry skin, eczema, increasing susceptibility to cold weather, constipation and pains in various parts of the body (mainly muscular pains). In the more advanced hypothyroid cases (from minus 20 to minus 50) we may find all these symptoms more or less exaggerated, and in addition retardation in the mental processes. Such patients are sleepy; the skin may be thick and dry; the hair very thin, and in some there may be entire loss of hair. Of course exceptions may be found. Not always does a moderately high rate mean toxic goiter; nor do all low rates indicate abnormality. Such diseases as polycythemia vera, leukemia, hypertension and rheumatic heart disease, especially mitral stenosis, may give a plus 20 to plus 30. Nephrosis sometimes gives a low rate and with it an increase in blood cholesterol. There are also a few diseases with symptoms common to hyperthyroidism in which the diagnosis of toxic goiter can readily be excluded by doing a basal metabolism; for instance, in pulmonary tuberculosis the so-called effort syndrome and neurosis associated with such symptoms as rapid heart, nervousness, tremor and profuse sweating, and in tuberculosis cases that show loss of weight, none of which show an abnormal increase in basal metabolism. A few years ago in one of the eastern sanatoriums a large number of patients was found who were being treated for tuberculosis, but a basal metabolism showed they were cases of toxic goiter. The test is simple and one can teach his office assistant or nurse to make the tests during the early morning office hours.

In conclusion I want to cite a few cases that have been benefited or cured by taking thyroid extract; also a summary of my experience in doing basal metabolic rate determinations.

During the past two years I have done basal metabolism tests on practically all patients coming to me for general examination. In an analysis of 743 cases I have found too low a rate in 156 and too high a rate in 49, exclusive of those in whom toxic goiter was suspected. The symptoms in the hypothyroid group have been as a rule in proportion to the lack of thyroid secretion, as determined by basal metabolic rate determination. Dry skin, chronic eczema, constipation, general muscular pains, worse at night, increased susceptibility to colds, drowsiness, migraine, obesity, general debility, loss of hair especially in the outer third of the eyebrows, mental depression, gastric disturbances and lack of energy have been the most frequent symptoms complained of by this group.

Not all patients with a low basal metabolic rate have been benefited by giving thyroid extract; only 9 per cent (13 patients) of those with a rate below minus ten were benefited by thyroid extract unless the rate was as low as minus twenty. Most of those who responded favorably to thyroid extract have shown a basal metabolism of minus twenty to minus thirty-four.

REPORT OF CASES

A married woman, aged 35, with a minus twenty rate, had suffered from bronchitis for over three months with no relief from any treatment. She was cured by taking one half grain of thyroid extract three times a day. Relief from cough was noted three days after starting treatment, control of all symptoms was obtained in a week. She continued the treatment for about six weeks, stopping for three or four days whenever she felt nervous. This was two years ago. She has had no return of the cough nor colds during this time that a few doses of thyroid extract failed to control.

A woman, aged 54, with a minus thirty-four rate had been under treatment for two years for duodenal ulcer and chronic constipation. Examination including roentgen ray showed no signs of ulcer. She reported in ten days after taking thyroid extract, one half grain three times daily, that she felt better than she had in years. During the past two years this patient has enjoyed good health but finds it necessary to take small doses of thyroid extract for about one week in every month.

A young woman, a stenographer, had three attacks of migraine a week. She had a minus twenty-four rate. One half grain of thyroid extract three times a day was given for a month. At the end of this time complete relief was obtained and she has had no attacks in over a year. She has taken small doses of thyroid for a few days at a time during this latter period whenever she felt that she might have an attack of headache coming on. However, for the past two months she has taken no treatment of any kind and is working every day.

SUMMARY

It is rarely necessary to give large doses of thyroid extract. Three grains a day is the most that I have given to any one patient, and most of the patients responded readily to one half grain three times a day. Some patients with toxic adenoma have either a normal or subnormal basal metabolic rate. Conditions such as pulmonary tuberculosis and types of neurosis resembling toxic goiter can be excluded by taking a basal metabolic rate determination. Patients who on the first test show a high rate without other symptoms of toxic goiter are given additional tests at several days' intervals before a final opinion is given.

600 Medical Arts Building.

TULAREMIA: RESULT OF TREATMENT

REPORT OF TWO CASES

ALEX VAN RAVENSWAAY, M.D.

BOONVILLE, MO.

It might be interesting to record the following cases of tularemia which were seen in our clinic in January, 1932.

The history concerns two brothers who had been skinning rabbits on December 18, 1931. Three days



Fig. 1. Tularemic ulcers of both hands after skinning rabbits.

later sores developed on both hands, followed by a feeling of general malaise. The sores refused to heal following applications of mercurochrome. At the same time the men skinned the rabbits they had seen their house cats eat some of the skins. Several days later the cats died. This frightened the brothers and they came to our clinic December 28, 1931, for treatment.

Upon inspection the sores were small and had a punched-out appearance. The lymph glands in the axilla were swollen to the size of a hen egg. The blood agglutinated the *Bacterium tularensis* at the dilution of 1:640.

Treatment consisted of ultraviolet ray exposure to the hands, painting the sores with gentian violet solution, injections of Searle's proteolac intra-

muscularly, 5 c.c. every other day. This was followed by great improvement and January 30, 1932, a month after the men came in for treatment, all the sores were healed.

Twenty days later one of the brothers came back complaining of a mass in the right axilla, which proved to be an abscess. This was lanced and he had no further trouble.

Figure 1 illustrates the hands of one of the brothers showing the skin lesions very plainly.

Van Ravenswaay Clinic.

ROENTGEN RAYS AND RADIUM IN TOXIC GOITER AND HYPERTHYROIDISM

In a discussion of the clinical course of toxic goiter and hyperthyroidism following treatment with roentgen rays and radium, J. THOMPSON STEVENS, Montclair, N. J. (*Journal A. M. A.*), calls attention to the fact that occasionally the patients suffer with increased toxicity for a few days following the initial treatments. Fortunately this is soon followed by relief, and gradual improvement takes place. Nausea, vomiting and diarrhea, when present, are among the first symptoms to improve or disappear. Early during the course of active treatment the strength begins to improve and pruritus disappears. Soon the weight increases, while palpitation, tachycardia, tremor, dyspnea and the tumor decrease and finally disappear. At this time the basal metabolic rate will generally be found to be within normal limits. The eye symptoms are among the last to disappear, and in some cases the exophthalmos never completely disappears. This is also true in cases treated surgically. In patients who have had severe thyroid intoxication for months or years, myocarditis frequently develops. In these cases the pulse rate is lowered but may never return to a perfect normal, no matter what the method of treatment, whether radiologic or surgical. If toxic goiter is superimposed on simple goiter, cystic goiter and other forms, the original tumor remains after treatment, and the enlargement of the gland appearing at the time of the development of toxicity disappears. In hyperthyroidism, i. e., thyroid intoxication without enlargement of the thyroid gland, superimposed on simple goiter, cystic goiter and other forms, treatment is not followed by any reduction in the size of the primary tumor. Correctly applied radiation therapy is second to no other method of treatment, and may be expected to cure from 85 to 90 per cent of persons with toxic goiter and hyperthyroidism.

TRAUMATIC LESIONS OF ABDOMEN

T. C. Bost, Charlotte, N. C. (*Journal A. M. A.*, Jan. 30, 1932), reports a case of transfixion of the abdomen by a bridge timber with recovery in which the salient points were as follows: (1) Shocks and hemorrhage at time of accident; (2) additional shock incident to operation for injury; (3) peritonitis from both external and internal contamination; (4) parotiditis and cellulitis of the neck and operation for drainage; (5) hemorrhage from sloughed external carotid artery; (6) operation for intestinal obstruction, enterostomy; (7) hemorrhage from slough into external carotid artery; (8) hemorrhage from slough into external carotid artery, and (9) operation for ligation of external carotid, with patient already in exsanguinated condition.

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NOVEMBER, 1932

EDITORIALS

DIED A' BORNIN'

The St. Louis *Star and Times* was accoucheur with Health Commissioner Starkloff acting as consulting accoucheur at the birth of a low-grade medical school in St. Louis October 20. The parents of the child did not invite these experts to attend the ceremony. Quite contrariwise, the newspaper and the health commissioner, made wise by experience with previous efforts in this direction, injected themselves into the councils where plans were brewing for giving the infant industry a healthy start. The child lived twenty-four hours and died from exposure.

According to the story published by the *Star and Times*, a pro forma decree of incorporation had been obtained from the Jackson County Circuit Court at Kansas City by Edward J. Burns for the establishment of "The Missouri College of Naturopathic Physicians and Surgeons." Plans had been made for the school to occupy the dilapidated building formerly the St. Louis College of Physicians and Surgeons. Edward J. Burns to whom the charter was issued is a chiropractor and was mixed up in the attempt to obtain a decree from Circuit Judge Killoren's court in St. Louis in 1931. Upon the adverse recommendation of former Judge Harry E. Sprague, amicus curiae, Judge Killoren declined to issue the decree.

We congratulate the St. Louis *Star and Times* upon its prompt action in exposing this second attempt on the part of Burns to establish a low-grade medical school in Missouri.

DR. M. O. BIGGS KILLED IN AUTO ACCIDENT

Dr. M. O. Biggs, Louisiana, Missouri, for many years one of our most loyal members and known throughout the state for his efficient service as superintendent of State Hospital No. 1, Fulton, for more than thirteen years, was killed on highway No. 54 a short distance

west of Louisiana, October 23. Dr. Biggs had parked his car on the side of the road and had started across the highway to speak to a friend in an automobile going in the opposite direction. He had stepped on to the highway from behind his car when he was struck by an automobile driven by Mr. Bonham Freeman of Bowling Green, editor of the *Bowling Green Times* and an intimate friend of many years' standing. Dr. Biggs sustained a fracture of the base of the skull and died at Pike County Hospital one hour later without having regained consciousness. A more extended comment on Dr. Biggs' career will appear in our December issue.

SERODIAGNOSIS OF SYPHILIS

REPORT OF THE LEAGUE OF NATIONS LABORATORY CONFERENCE

At the second serologic conference held in Copenhagen in 1928 under the auspices of the League of Nations¹ it was concluded that "the best of tests depending on precipitation may be regarded as equal in value to the best of the tests depending on complement fixation." The Kahn test showed the best performance since it gave a total of 305 positive reactions in 502 syphilitic cases as against 208 given by the best of the Wassermann methods. In regard to specificity the Kahn reaction gave no positive reactions in 435 control cases while 5 of the 7 Wassermann methods gave from 6 to 29 positive reactions in this group.

At the third serologic conference held at Montevideo in 1930,² eight of the leading serologists from South America convened for the conference. In addition to these the three leading contestants attending the second serologic conference at Copenhagen were invited. These included Dr. Kahn of the United States, Dr. Wyler of Great Britain and Dr. Muller of Austria.

At this conference the sera of 304 nonsyphilitic cases and 623 syphilitic cases were studied. Out of the 7 Wassermann systems, 3 (Scaltritti-Cassiniga, Sordelli-Miravento and Wyler) had no false positives in the group of nonsyphilitic cases while the other four systems had 2.6, 4.3, 5.6 and 13.9 per cent false positives. In the four precipitation tests the standard Kahn tests had no false positives and the others (Muller, Meinicke and Prunell) had respectively 0.7, 2.4 and 4.5 per cent false positives. The Kahn presumptive test had 1.0 per cent false positives but since this reaction is not used diagnostically

1. Report of Second Laboratory Conference on Serodiagnosis of Syphilis, Geneva, League of Nations Health Organization, 1928.

2. Report of Third Laboratory Conference on Serodiagnosis of Syphilis, Geneva, League of Nations Health Organization, 1930.

but only as a check on treatment, the result of this test was not considered.

In the group of syphilitic cases the Kahn reaction showed 63.9 per cent to be positive and was therefore more sensitive than any of the 7 Wassermann systems except that of Moreau (64.79 per cent positive). Since Moreau's Wassermann system showed 13.9 per cent false positive reactions this test can be considered as lacking in specificity. Wyler's Wassermann system, which proved to be the best of the complement-fixation methods at the second serologic conference although it lacked sensitivity, showed 59.4 per cent positives in this group. In comparison to the other three precipitation methods the Kahn was more sensitive than all of these except the test of Muller (69.3 per cent positive). Muller's test, in addition to having 0.7 per cent false positive reactions, is impractical because the antigen can only be purchased from one manufacturing house in Berlin.

In 200 samples of cerebrospinal fluid tested, the Kahn and Wyler reactions were the only ones that proved to be absolutely specific. In the 53 cases of syphilis the Kahn precipitation test proved positive in 33 and the Wyler complement-fixation test in 28 cases. In the 147 non-syphilitic cases the Kahn and Wyler tests had no false positive reactions while the other tests had from 1 to 3 false positive reactions.

Because of the very favorable results obtained by Dr. Kahn at the Montevideo conference, they conclude as follows: "The majority of serologists taking part in the Montevideo Conference agreed that, in the hands of Professor Kahn himself, the Kahn 'standard' test, which (as was the case also at the Copenhagen conference) proved to be absolutely specific and extremely sensitive, was the best of those demonstrated at the Conference."

ST. LOUIS SESSION OF THE AMERICAN COLLEGE OF SURGEONS

The twenty-second clinical congress of the American College of Surgeons was held in St. Louis October 17 to 21. The registration of 2000 included many distinguished surgeons from this and foreign countries. Under the direction of the local committee on arrangements with Dr. Evarts A. Graham, St. Louis, as chairman, operative clinics and demonstrations in all branches of surgery were conducted at the medical schools of Washington and St. Louis universities and in the approved hospitals of St. Louis and St. Louis County.

An interesting program of papers, round-table conferences and practical demonstrations dealing with many of the problems related to hospital standardization was held. It was re-

ported that in 1918 only eighty-nine hospitals in the United States and Canada, representing 12 per cent of those surveyed, met the requirements of standardization; today the list covers 2294 institutions representing 65 per cent of those surveyed.

The departmental activities of the college were demonstrated by a series of exhibits including fractures, treatment of malignant diseases, bone sarcoma, medical motion picture films, industrial medicine and traumatic surgery, cancer clinic organization, hospital standardization and research. Throughout the week medical motion pictures, both silent and sound, demonstrating clinical features of interest were exhibited.

The program included a series of five evening meetings. At the first of these meetings, Dr. Allen B. Kanavel, Chicago, gave his retiring presidential address, "Intangibles in Surgery," and the incoming president, Dr. J. Bentley Squier, New York, gave his inaugural address, "Fundamentals of Specialism." At other evening meetings two special orations were given: The annual oration on fractures by Dr. Philip D. Wilson, Boston, of the Harvard Medical School and the Massachusetts General Hospital, and an oration by Dr. Frederick A. Besley, Waukegan, Illinois, chairman of the board on industrial medicine and traumatic surgery, dealing with the present and future activities of this department of college work. The annual John B. Murphy oration in surgery was delivered by Sir William I. DeCourcy Wheeler, Dublin, Ireland, his subject being "Pillars of Surgery."

For several years the college has presented personal health talks at community meetings. Such a meeting was held at the St. Louis session. It was scheduled for the St. Louis University gymnasium and preparations had been made for an attendance of 5000, but long before the time for the meeting to open an overflow crowd had to be sent to the law school auditorium of the university and two identical programs were given. It was estimated that 10,000 persons attended the two meetings with a large number turned away because of lack of space. Eight specialists from leading medical teaching centers presented short illustrated talks. Among the subjects discussed were: "Seven Wonders of Medicine," "The Dividends of Medical Science," "Choosing Your Hospital," "Medicine of the Future," "Cancer: A Curable Disease," "That Ache in Your Back," "Why Are You Nervous?," "Doctors, Hospitals and Patients," and a motion picture on acute appendicitis.

At the closing meeting of the congress 633 surgeons were admitted to fellowship. Following this ceremony addresses were delivered by

Dr. J. Bentley Squier, New York, incoming president, and by Dr. Robert Andrews Millikan, Pasadena, recipient of the Nobel prize in physics. Dr. Millikan spoke on "Some New Things in Physics." The \$500 prize for the best case history submitted by applicants for fellowship was awarded to Dr. Clyde H. Fredrickson, Great Falls, Montana.

Dr. W. D. Haggard, Nashville, Tennessee, professor of clinical surgery, Vanderbilt University School of Medicine, was elected president-elect.

NATHANIEL ALLISON, M.D.

May 22, 1876 - August 30, 1932

The medical profession lost one of its outstanding members in the death of Dr. Allison. He was the leading orthopedist in the United States and an important factor in most of the organizations which are responsible for the advancement of medical knowledge, particularly along the line of his chosen specialty. He held successively the chair of orthopedic surgery in three of the leading medical schools situated in three of the large medical centers of the United States and was sought by others. He was the chief orthopedic consultant in the A. E. F. and directed the policy of this branch of the service and was honored with the award of the Distinguished Service Medal by our Government.

Nathaniel Allison was born in St. Louis. His mother was Addie Shulz, of St. Louis; his father, James W. Allison, was a son of Dr. Nathaniel Allison, of Mexico, Missouri, a well-known and honored practitioner whose contact with his grandson in his early life laid the seed for the desire to enter medicine. After attending the Smith Academy in St. Louis he entered the United States Military Academy at West Point where he remained long enough to become imbued with the military idea, a training that later stood him in good stead when he was called to serve in the medical department of our army in 1917. He entered Harvard College in 1896 and in the following year entered the medical school at Harvard from which he was graduated in 1901. After serving his internship at the Children's Hospital of Boston he became associated with Dr. Edward Bradford, Boston, then the leading orthopedist of that orthopedic center and remained there for several years. He returned to St. Louis in 1904 to resume the practice of orthopedics and immediately associated himself with the medical school of Washington University. At that time the Martha Parson's Free Hospital for Children was the most important orthopedic center in St. Louis and under the stimulus of Dr. Allison it advanced

its position rapidly. In 1909, when the St. Louis Children's Hospital was put under the charge of the faculty of Washington University, it was largely through the influence of Dr. Allison that the Martha Parson's Hospital amalgamated with that institution. Together with the facilities offered by the outpatient department of Washington University, the Barnes Hospital and the new Children's Hospital, Dr. Allison developed an orthopedic service that attracted favorable attention of the profession throughout the country. There was a country addition to the Children's Hospital established at Ridge Farm on the Meramec River where tuberculous bone and joint diseases were treated by heliotherapy. At first skeptical of the results reported by this type of handling of cases from the Swiss clinics, Dr. Allison later became an enthusiastic advocate.

In the twelve years there had been the rapid advance from assistant to instructor, to clinical lecturer, to associate professor and then clinical professor of orthopedic surgery in the Washington University medical school. During these years he made valuable contributions to the literature, both clinical and pathological, covering bone and joint tuberculosis, the surgery of deformities due to paralysis and the clinical handling of fractures. His position in his specialty was recognized by his being chosen for chairman of the orthopedic section of the American Medical Association in 1914.

In 1915 the opportunity came to help in caring for the war injuries coming into Paris. Here he joined the American Ambulance and worked in the hospital at Neuilly for several months gaining experience with compound fractures and perfecting methods of treatment, and on his return he brought many documents and photographs to the medical school which were used in teaching something of the nature of the injuries encountered in modern warfare and how to care for them, a timely thing because it was inevitable that our armies would soon be engaged. In 1917 when the Red Cross Base Hospital Unit No. 21, which he had been instrumental in organizing with Dr. Fred T. Murphy as Commanding Officer, was called into service by our Government, Dr. Allison went overseas and for a time stayed with the unit at Rouen in the British service. After our troops came over in sufficient numbers to warrant his transfer Dr. Allison, then Major, was attached to the orthopedic section and became a consultant for the armies, having particular charge of the care of serious bone injuries, starting with them in the forward areas, and following them on to their ultimate return to America. His familiarity with the methods used by the British and the French gave him a

special knowledge on which to base his advice about these fracture cases, and he had most to do with the choice of apparatus that was used by the A. E. F. and in conjunction with the Paris office of the Red Cross personally supervised the manufacture and delivery of the much needed Thomas splints which were all-essential to the care of major fractures and with which our army was inadequately equipped. Together with several leading orthopedists, including Goldthwaite and Osgood, the plans for the orthopedic adjustment of the soldiers of the A. E. F. before and after injury were finally determined. Probably few medical officers saw such extensive service and had so many opportunities to observe as did Dr. Allison and because of his sound advice he was called into many of the councils with the heads of the army. After the war Colonel Allison remained in the Reserve Corps and was most active in keeping up the interest of the younger medical men in a military training and he fostered the continuance of the Reserve Corps hospital units connected with the Washington University medical school.

In 1909 Dr. Allison and Miss Marion Aldrich of Chicago were married. They found happiness in the same things and took occasion to see much of the world together. While on a trip about the world in 1919, Dr. Allison was called home to take the deanship of the Washington University medical school, being the first St. Louisan to hold this place since the reorganization of the school in 1909. As one of his colleagues has said, "He did so much to make the Washington University School of Medicine what it is today. The broad vision, enthusiasm and tireless energy resulted in a phenomenal development of the school along the best lines during the period in which he directed its destinies." He saw in the dispensary an opportunity not only to take care of the sick and injured, but a chance for entering preventive medicine and linking up public health to the program and making the contacts with the welfare organizations very close. He gave sympathetic support to social service and started the wider application of this most valuable branch, not only in the outpatient department but in the hospital. Through him negotiations were carried on with the St. Louis Maternity Hospital which resulted in its coming into the group about the Washington University medical school. His broad outlook on affairs both medical and general showed him the need for closer contacts with the public and he was fertile in suggestions as to the best methods to handle public medical problems.

By joining forces with St. Louis University, under his direction a plan was worked out to

vitate the enactment of an ordinance by the Board of Aldermen in St. Louis that would have put medicine back on the basis it had been fifty years before. When the irresponsible antivivisectionists made their plea so strong that it looked forlorn for the prospects of any further research, Dr. Allison took the aldermen into the laboratories where valuable work was going on and showed them operations being performed on animals, and then took the group across the street to the hospital operating rooms, and so was able to convince them that there was no inhumanity in what they had seen in the laboratory and hence they didn't pass the proposed adverse laws. On another occasion, when a widely known Viennese surgeon made a return visit to America and joined forces with undesirable medical men who exploited the crippled and paralyzed of one or two of our large cities, and had planned to visit St. Louis, Dr. Allison proposed and, with the assistance of the St. Louis Medical Society and an enthusiastic newspaper man, opened a public clinic held for three days at the St. Louis Medical Society building, attended by the leading orthopedists and neurologists of the city, that cared for hundreds of helpless ones who lived in our area, without charging a fee, and even arranging for hospitalization if they needed it. In this way these unfortunate people were spared from being exploited by a designing alien and received the ablest advice. While he was still in St. Louis and largely through his efforts, the first Shriners Hospital for Crippled Children was established in that city.

About the time of this hospital's opening a call came from Harvard to the chair of orthopedic surgery that carried the appointment as orthopedist to the Massachusetts General Hospital which he accepted, and he took up the work in Boston in 1923. Under his direction the orthopedic activities of this old hospital were rejuvenated, and both the chief and the juniors made many valuable contributions. He also took up private practice in the old firm which had been headed by Robert Lovett and he became a director in the Boston School for Crippled Children, was chief surgeon for the Peabody Home for Crippled Children, and consultant to the Boston Industrial School for Crippled Children and to the Massachusetts Eye and Ear Infirmary.

In 1929 he was made professor of surgery in charge of orthopedics at the University of Chicago Medical School. He had taken on this new responsibility and helped plan the McElwee and Hicks Memorial Hospital in the Chicago University Group which was to care for the crippled children, and had started some

valuable clinical and laboratory research when in June, 1931, he had an occlusion of part of the coronary artery that made him seriously ill for a time. He recovered enough to have resumed all his activities except operating, when a second seizure in November, 1931, made an invalid of him, and in seeking a more comfortable climate he left Chicago in February, eventually reaching La Jolla, California, where he stayed until his death.

In 1922 Dr. Allison was made president of the American Orthopedic Society of which he had long been a member. He had been a member of the St. Louis Surgical Society from 1907 and of the Surgical Club in St. Louis. He was a member of the Boston Surgical Society, Southern Surgical Association and the Western Surgical Association, a corresponding member of the Societe des Chirurgiens de Paris, and an honorary member of the British Orthopedic Association. He was also a fellow of the American Medical Association and a fellow of the American College of Surgeons. A list of his contributions is attached. Particular note should be made of his last work in conjunction with Ghormly on "The Diagnosis of Joint Disease" and to the cooperation with others in the "Outline of the Treatment of Fractures."

At his funeral, which was held at the Westminster Presbyterian Church in St. Louis of which he was a member, many of his old associates returned to do him honor.

An able surgeon, a fine organizer, a delightful companion, a true friend has passed away.

M. B. C.

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of

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NEWS NOTES

Dr. Clarence Capell, Kansas City, was the guest of the Golden Belt Medical Society at a meeting in Salina, Kansas, October 13, and delivered an address on "Chronic Prostatitis."

The Nodaway County Medical Society will celebrate the sixtieth anniversary of its organization on November 11. Drs. C. T. Bell, Maryville, and C. W. Kirk, Hopkins, are in charge of the program.

Dr. Samuel Wolff, St. Louis, was indicted by the grand jury October 6 on a charge of attempting to obtain money by false pretenses in a faked automobile accident. Two lawyers and a man who described himself as an "ambulance chaser" were also indicted.

The Missouri Methodist Hospital, St. Joseph, cared for 4,489 patients during its last fiscal year which ended August 31. The net earnings of the hospital amounted to \$16,577, according to Dr. O. J. Carder, superintendent. Total cost of operation for the year was \$179,103 of which \$35,989 was for charity and part-pay patients.

The *Bulletin* of the American Society for the Control of Cancer was made the official organ of that society by the board of directors at a meeting October 8. The former relationship between the society and the *American Journal of Cancer* was discontinued.

A joint meeting of the Missouri Society for Mental Hygiene and the St. Louis unit of the National League for the Rehabilitation of Speech was held October 10. Speakers included Drs. Val Satterfield, Leo Fagan, Paul Kubitschek and James Lewald, of St. Louis.

Dr. Harvey J. Howard, St. Louis, delivered an address before the American Academy of Ophthalmology and Otolaryngology at the meeting of the academy, September 19 to 23, in Montreal. His subject was "Recent Developments in Trachoma Investigations."

A portrait of the late Dr. C. D. McDonald, first president of the Jackson County Medical Society, was presented to the Society September 27 by Mrs. E. F. Parks, Dr. McDonald's daughter. The portrait was accepted for the society by Dr. Albert J. Welch, president.

Pathological conferences in otolaryngology are being held each Tuesday from 4:30 to 5:30 in the Oscar Johnson Institute, St. Louis. Clinical conferences are being conducted in the Barnes medical amphitheater on Thursdays from 9 to 10. Research conferences will be scheduled later.

Dr. Otto W. Koch, St. Louis, has been elected commander of the Lloyd Boutwell Post, St. Louis, medical post of the American Legion. Other officers who were chosen are Dr. A. H. Conrad, St. Louis, vice commander; Dr. Joseph E. Wheeler, Jefferson Barracks, adjutant and finance officer, and Dr. Claude D. Pickerell, St. Louis, chaplain.

A joint meeting of the Jackson County (Missouri) and the Wyandotte County (Kansas) medical societies, the Kansas City academy of Medicine and the Kansas City Urological Society was held in the assembly hall of the Medical Arts building in Kansas City, October 29. Dr. Hugh H. Young, Baltimore, clinical professor of urology of the Johns Hopkins Medical School addressed the meeting on "Surgery of the Prostate." An informal reception and dinner for Dr. Young preceded the scientific session.

Mrs. Morris Fishbein, Chicago, addressed the Kansas City Women's Chamber of Commerce October 3 on the lowering of the maternal death rate in this country. Dr. Fishbein, editor of the *Journal of the American Medical Association*, and Mrs. Fishbein attended the meeting of the Kansas City Southwest Clinical Society at Kansas City October 3 to 8.

Dr. R. L. Ehrlich, Koch, Missouri, was elected president of the St. Louis Trudeau Club at the meeting of October 6. Dr. Harry C. Ballon, St. Louis, was elected vice president and Dr. George S. Wilson, Koch, secretary-treasurer. The next meeting of the society will be held November 3 at the St. Louis Medical Society building.

Dr. George H. Hoxie, Kansas City, was re-elected president of the Missouri Tuberculosis Association at the twenty-fifth annual session of the association which was held in Jefferson City September 19 to 22. The executive committee for the ensuing year includes Drs. E. E. Glenn, Mount Vernon; James Stewart, Jefferson City, and Sam Snider, Kansas City. Drs. E. M. Shores, St. Joseph; W. H. Breuer, St. James; Eugene M. Lucke, Hannibal, and A. J. Campbell, Sedalia, were reelected to the board of directors. New members of the board include Drs. William Weiss, St. Louis, and Jesse E. Douglas, Webb City.

A giant magnet to be used for extracting particles of steel and iron which may be impacted in the eye was presented to St. Louis University School of Medicine, October 19. The instrument is the gift of Dr. Pierre Chandeysson, president of the Chandeysson Electric Company, St. Louis, and is a memorial to the late Colonel Ernest Bingham who was chief medical officer at Jefferson Barracks for a number of years. The magnet will be housed in the ophthalmological suite of the outpatient department of the Firmin Desloge Hospital.

Dr. W. McKim Marriott, St. Louis, dean of Washington University School of Medicine, and Dr. Malcolm MacEachern, Chicago, addressed the regular Wednesday meeting of the Washington University Lunch Club, St. Louis, October 19. Dr. Marriott discussed some of the advances made by Washington University since the early days of the St. Louis Medical College and the Missouri Medical College which were absorbed by Washington University. Dr. MacEachern discussed general medical problems.

The use of the artificial larynx was demonstrated by the Southwestern Bell Telephone Company October 11 before about ninety St. Louis physicians and faculty members of the Central Institute for the Deaf, St. Louis. A practical demonstration, motion pictures and lectures on the mechanism and use of the artificial larynx constituted the program.

The new St. Louis City Hospital Nurses Home was opened November 1. The building is six stories and has 253 single rooms and sixteen suites for faculty members. The ground floor, connected by a tunnel with the hospital proper, contains classrooms, a chemistry laboratory, a demonstration room, a library, a lounge, three small parlors and the offices. Each wing on each floor has a kitchenette and the wings terminate in large sun parlors.

Dr. Jabez N. Jackson, Kansas City, was the guest of honor of the alumni of the old University Medical College of Kansas City at a meeting held October 5 in Kansas City. Dr. Jackson was professor of surgery and dean of the college for many years. Former students, some coming from far distances, paid their respects to and eulogized their former teacher. Among the speakers was Dr. Clarence G. Toland, Los Angeles, an alumnus. When Dr. Jackson arose to speak he said "You have honored me for teaching you character and honesty along with medicine. And now I am surprised to see that I have produced so many liars."

The twenty-sixth annual meeting of the Southern Medical Association will convene in Birmingham, Alabama, November 15 to 18. Modern scientific and practical medicine and surgery will be covered in the general and scientific sessions of the sixteen sections and four conjoint meetings. Convening at the same time in Birmingham will be the American Society of Tropical Medicine, the National Malaria Committee, the southern branch of the American Public Health Association and the southern branch of the Society for Experimental Biology and Medicine. Reduced railroad fare has been arranged on the certificate plan. In order to obtain this reduction members must present to the ticket agent an identification slip certifying that the person is a member of the Southern Medical Association. The slip carries the name of the member and cannot be used by anyone else. Similar certificates are obtainable for members of the families of physicians. Members can obtain slips by addressing Mr. C. P. Loran, secretary-manager, Empire building, Birmingham.

The Society of Plastic and Reconstructive Surgery held its annual meeting in New York City October 28 and 29. Dry clinics and round-table discussions occupied the mornings and business and scientific sessions the afternoons. Participating in the session were the New York Academy of Medicine, the New York Hospital and Cornell University Medical College, Sydenham Hospital, the Hospital for Joint Diseases, Mount Sinai Hospital, the Post-Graduate School and Hospital and the New York Skin and Cancer Hospital.

The Kansas City Health Department is making an investigation of parrots and parakeets in bird stores in the city to determine if psittacosis has reached the city. Dr. C. L. Cooper, health director of Kansas City, issued a warning to owners of such birds to dispose of them if any symptoms of illness appeared. No cases have been reported in Kansas City since February, 1930; at that time all parrots and parakeets which had been imported from South America were isolated. Secretary of the Treasury Hurler, upon the recommendation of the United States Public Health Service, ordered that interstate shipment of birds of the parrot family be limited to those certified by health authorities as coming from aviaries free from infection. An outbreak of psittacosis in Minneapolis where five cases and one death were reported and one case in Boise, Idaho, prompted the Secretary's action.

The American College of Physicians will hold its seventeenth annual clinical session at Montreal, Canada, with headquarters at the Windsor Hotel, February 6 to 10, 1933.

Dr. Francis M. Pottenger, Monrovia, California, president of the college, has charge of the program of general sessions. Dr. J. C. Meakins, Montreal, professor of medicine and director of the department, McGill University Faculty of Medicine, is general chairman of local arrangements and is in charge of the program of clinics. Mr. E. R. Loveland, Executive Secretary, 133 S. Thirty-Sixth Street, Philadelphia, is in charge of the general business arrangements and may be addressed concerning any feature of the forthcoming session including requests for copies of the program.

Grace Hospital and its home for nurses, Kansas City, were offered to Kansas City as a gift in memory of the late Dr. St. Elmo Sanders by his widow, Mrs. Edith Sanders, on October 3. The hospital has an incumbrance of \$75,000 and the city would be expected to assume the indebtedness. The hospital was founded in 1917 by Dr. Sanders and Dr. William E. Cramer.

It was sold in 1928 to the Evangelical Deaconess Society but reverted back to the original owners in April of this year and has been closed since May. The hospital is a five-story, fire-proof building of one-hundred-bed capacity. The nurses home is a three-story building with thirty rooms. It was suggested that the hospital be used as a North Side unit of the General Hospital.

The St. Louis City Health Department plans to hold a series of clinical demonstrations in the methods of detecting tuberculosis early in the disease. The course will probably begin in November, according to Dr. Max Starkloff, health commissioner. Dr. H. I. Spector, tuberculosis controller, will be in charge of the clinics. The sessions will be held in various city institutions wherever cases illustrating the particular subject studies are to be found. The course of study will include demonstrations of the tubercle bacillus in sputum, recognition of early lesions by roentgen ray, methods of percussion, demonstration of nontuberculous conditions simulating tuberculosis, evaluation of history, and physical and laboratory findings.

There will be no fee for the course and Dr. Spector, Municipal Courts Building, is handling the registration. Physicians enrolled will be divided into small groups, each group to be in charge of clinicians trained in diagnosis of chest diseases.

Dr. Richard L. Sutton, Jr., Kansas City, foreign correspondent of the *Jackson County Medical Journal*, has been made a licentiate of the Royal College of Physicians and Surgeons of Edinburgh, having passed the examinations of the British Conjoint Medical Board. Since last January Dr. Sutton has been studying in Edinburgh and on the Continent. Dr. Sutton graduated in medicine from the University of Michigan School of Medicine in 1929 after earning his B.S. and A.M. degrees. While still a student in the medical school his father, Dr. Richard L. Sutton, Sr., Kansas City, promised to give him a graduation present of a year's hunting of big game providing he made sufficiently acceptable grades. Evidently the neophyte made good because his father took him on a year's trip through Europe, Africa, the Federated Malay States, Indo-China and the Far East. The trip was graphically described by the senior Sutton in his book "The Long Trek." Dr. Sutton is joint author with his father of a textbook on dermatology and recently published a report on a hitherto undescribed tumor of the mouth ("A Fissured, Granulomatous Lesion of the Upper Labio-Alveolar Fold," *Archives Dermatology and Syphilis*, September, 1932).

The following articles have been accepted for New and Nonofficial Remedies :

Abbott Laboratories

Abbott's A-B-D Malt Extract with Cod Liver Oil and Viosterol 5D

Jensen-Salsbery Laboratories, Inc.

Undulant Fever Bacterial Vaccine

Eli Lilly & Co.

Gas-Gangrene Antitoxin (Combined)

Tetanus-Gas-Gangrene Antitoxin (Combined)

Plague Vaccine, Prophylactic, three 1 c.c. vials package

National Drug Co.

Tuberculin Intracutaneous for Mantoux Test

G. D. Searle & Co.

Tablets Chiniofon-Searle Enteric Coated, 0.25 Gm. (4 grains)

E. R. Squibb & Sons

Typhoid Vaccine (Immunizing), one 5 c.c. vial package

Typhoid Vaccine (Immunizing), one 20 c.c. vial package

Ulmer Laboratories

Biliposol

Ampoules Biliposol Solution, 2 c.c.

The following articles have been exempted and included with the List of Exempted Medicinal Articles (New and Nonofficial Remedies, 1932, p. 487) :

Hollister-Stier Laboratories

Protein Extracts Diagnostic—Hollister-Stier McCormick & Co., Inc.

McCormick's English Mustard

United States Standard Products Company

Vaccine Virus (U. S. S. P.)

The Wilber Co., Inc.

Tablets Digitalis—Wilber

Tincture Digitalis—Wilber

John Wyeth & Brother, Inc.

Wyeth's Capsules Digitalis Leaf Defatted

six years and had served many in that community. He was prominent in both professional and civic circles and a large group of friends and colleagues mourn his death.

GEORGE CLEMENT ROBERTSON, M.D.

Dr. George Clement Robertson, Eolia, a graduate of Washington University School of Medicine, 1900, died June 13, aged 68 years.

Dr. Robertson was born near Bowling Green and his early life was spent in farming and stock raising. Immediately following the completion of his course in medicine he began practice in Eolia and remained there administering to the needs of the community throughout his career. He was a loyal member of organized medicine and had many friends in the profession. He had made a place for himself in the community and his death brought sorrow to many.

He is survived by his widow, Mrs. Stella Robertson, a brother and a sister.

CLARENCE WELLINGTON RUSSELL, M.D.

Dr. C. Wellington Russell, Springfield, a graduate of the University of Minnesota Medical School, 1903, died in a sanitarium in Leavenworth, Kansas, September 5, aged 59 years.

Dr. Russell was born in Augusta, Wisconsin, and received his preliminary education at Beaver Dam, Wisconsin. He began his medical practice at Elysin, Wisconsin, but soon moved to Colorado where he remained seven years. He located in Springfield in 1913 and remained in the practice of surgery there until his death.

Dr. Russell was an active member of the Greene County Medical Society and was alternate to the State Meetings in 1930, 1931 and 1932. He was a fellow of the American Medical Association.

In the death of Dr. Russell the profession has lost an active and valuable member, one held in high esteem by his medical confreres, and the community has lost a worthy citizen.

He is survived by his widow, Mrs. Abby Howe Russell.

BACILLUS OF TETANUS

During the Great War the well cultivated fields in the north of France were found to teem with the bacillus of tetanus, whose ravages among the wounded would have been appallingly heavy but for the timely use of that antitoxin which was available, thanks to the researches of Baron Shibasaburo Kitasato many years earlier. The story of Kitasato, a pioneer of medicine and a microbe hunter, is told by Dr. Claude Lillingston in the September issue of *Hygieia*.

OBITUARY

LAWRENCE L. SMITH, M.D.

Dr. Lawrence L. Smith, Bethel, a graduate of Barnes Medical College, St. Louis, 1899, died suddenly of cerebral hemorrhage, in his office July 4, aged 65 years.

Dr. Smith was an active participant of organized medicine. He was president of the Shelby County Medical Society in 1926, alternate to the State Meeting in 1928 and delegate in 1929. He was a fellow of the American Medical Association. He served in the medical corps during the World War. He was county health officer at the time of his death.

Dr. Smith had practiced in Bethel for twenty-

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL FOR 1932

(UNDER THIS HEAD WE LIST SOCIETIES WHICH
HAVE PAID DUES FOR ALL THEIR MEMBERS)

HONOR ROLL

Ste. Genevieve County Medical Society,
December 16, 1931.

Miller County Medical Society, Decem-
ber 23, 1931.

Mercer County Medical Society, Decem-
ber 24, 1931.

Camden County Medical Society, January
5, 1932.

Johnson County Medical Society, Janu-
ary 20, 1932.

Dent County Medical Society, January 22,
1932.

Macon County Medical Society, February
10, 1932.

Webster County Medical Society, March
21, 1932.

Platte County Medical Society, April 7,
1932.

Pulaski County Medical Society, April 8,
1932.

Schuyler County Medical Society, April
14, 1932.

Ralls County Medical Society, April 22,
1932.

Wright-Douglas County Medical Society,
April 26, 1932.

Barry County Medical Society, May 2,
1932.

Chariton County Medical Society, May
5, 1932.

Benton County Medical Society, August
18, 1932.

Cole County Medical Society, August 26,
1932.

Dekalb County Medical Society, August
29, 1932.

BUCHANAN COUNTY MEDICAL SOCIETY

The regular business meeting of the Buchanan County Medical Society was called to order by the president, Dr. A. E. Burgher, St. Joseph, at the Missouri Methodist Hospital, September 21.

A motion was introduced by Dr. W. T. Elam, St. Joseph, that the secretary be instructed to write a letter to the Board of Public Works asking them to widen Faraon street from 4th to Frederick. This has become necessary because of the increased amount of traffic to the several churches and the Missouri Methodist Hospital on this street. The motion was seconded and carried.

Dr. H. DeLamater, St. Joseph, spoke regarding the physical examination of high school pupils. He told the Society that the school board would allow \$2 per hour to physicians for the examination of those who could not pay their family physician. The Society instructed the president to appoint the doctors who were willing to make the examinations for this price.

A motion by Dr. J. M. Bell, St. Joseph, that Dr. Levi Long, St. Joseph, on account of physical disability, be made an Honor Member of the Buchanan County Medical Society, carried.

The secretary was instructed to issue a transfer card to Dr. C. O. Dewey who now lives in Clarinda, Iowa.

Dr. W. T. Elam, St. Joseph, chairman of the committee on venereal clinics, reported that his committee visited the city council as per instructions and were well received; that the council seemed in sympathy with their cause but frankly informed them that they had no money to put it in operation at present. No action on this report was taken by the Society.

The question of transferring \$10,000 from the library board to the welfare board was freely discussed by most of the members. The consensus was that it should be done if necessary; that food, coal and medicine were of more importance than books during the depression. No definite action was taken.

The question of the city securing a loan from the Government to care for the poor this winter was discussed by Drs. W. T. Stacy, W. T. Elam, Hasbrouck DeLamater, M. H. Talty, A. E. Burgher and J. M. Hughes, of St. Joseph. A motion by Dr. M. H. Talty that the various charity organizations of the city cut down their overhead expenses before asking the Government for a loan carried.

Dr. L. C. Bauman, president of the board of health, asked for an expression from the Society regarding immunization against diphtheria. The Society by unanimous vote endorsed the plan and agreed to give it all the publicity possible.

The president appointed Dr. O. E. Whitsell, St. Joseph, to take the place of the late Dr. Julius Kangiser, on the publicity committee.

Meeting of October 5

The regular meeting of the Buchanan County Medical Society, at the Missouri Methodist Hospital, St. Joseph, was called to order by the president, Dr. A. E. Burgher, St. Joseph, October 5. Thirty members were present.

The president read a communication from the Woman's Auxiliary asking the Society to cooperate with them in arranging a program and furnishing seven speakers to lecture on tuberculosis in the junior and senior high schools. This communication was discussed by Drs. G. A. Lau and J. M. Hughes, of St. Joseph.

Dr. Wm. T. Elam, St. Joseph, moved that the meeting and program be turned over entirely to the Woman's Auxiliary. Seconded and carried.

Dr. Elam moved that the secretary be instructed to inform the Woman's Auxiliary that the members of the Society are available as speakers and will cooperate with them at any time when called upon. Seconded and carried.

The committee on necrology reported as follows:

DEATH OF DR. HILLYARD

Dr. Lyda Hillyard, a member of our Society, passed to her reward August 31, 1932, following a short illness. Dr. Hillyard was the first woman member of the Society and while not always present at our meetings was a loyal supporter of regular medicine. She was born in Iowa and received her early education in that state. She graduated from the Central Medical College, St. Joseph, in 1903, and immediately engaged in the practice of medicine in St. Joseph.

She was a good Christian woman and a competent and ethical practitioner of medicine. By her death the community has lost an active citizen and the Buchanan County Medical Society a loyal and conscientious member. Therefore, be it

Resolved, That we deeply lament the loss of Dr. Hillyard; that we extend to the family our kindest sympathy, and that a copy of this resolution be made a part of our records and a copy sent to the family.

LEROI BECK,
G. D. WRIGHT,
W. T. STACY,
Committee

The report of the committee was ordered spread on our records.

Dr. Owen D. Craig, St. Joseph, having been a probationary member of this Society for one year, it was ordered that his credentials be submitted to the board of censors with a view of his now becoming a permanent member.

The scientific paper of the evening was presented by Dr. Charles Greenberg, St. Joseph, on "Urology in Children."

The author showed that he had given the subject a great deal of study and cited many cases from his experience. The paper was instructive and well received. It was discussed by Drs. J. G. Jones, J. J. Bansbach, J. M. Bell and C. A. Good, of St. Joseph, and the discussion closed by Dr. Greenberg.

The next meeting will be held on October 19, 1932.

EMMETT F. COOK, M.D., Secretary.

FIVE COUNTY MEDICAL SOCIETY

The Five County Medical Society of Southeast Missouri, consisting of Butler, Dunklin, New Madrid, Pemiscot and Stoddard counties, met at Kennett September 15 with the Dunklin County Medical Society acting as host. This was the third quarterly session of the year of lectures under the supervision of the Missouri State Medical Association.

At 6:30 p. m. the meeting was called to order by the acting president, Dr. E. G. Cope, Hornersville. Dr. T. J. Rigdon, Kennett, secretary, sponsored a program of music in the main room of the Methodist Church. The Kennett band gave a series of numbers that were inspiring and were well accepted by the physicians. Mr. Masterson delivered the address of welcome. Following this program the members retired to the basement of the church where the ladies of the Methodist Church served a most excellent banquet. A number of young ladies offered readings, violin duets, vocal and piano solos as entertainment during the fine repast. Dr. G. A. Sample, Chaffee, gave the response to the address of welcome in his interesting, calm and happy manner.

The scientific program follows: "Cancer of the Lip," by Dr. L. H. Jorstad, St. Louis, and "Skin Cancer," by Dr. R. S. Weiss, St. Louis.

Few lectures have created the enthusiasm and eager thirst for knowledge as did these two. Among the many postgraduate lectures we have had these two proved highly interesting, instructive and fascinating to more men than most courses. The lantern slides illustrating the pathology, type of condition, results of improper treatment and of proper treatment added much to the value of the lectures.

Numerous questions were asked which proved of great benefit in clearing up certain points of difficulty in diagnosis of some mucous membrane and skin diseases.

The next meeting of the Five County Group will be held in Stoddard County with that County Society acting as host. This meeting will be at Bernie at the special request of Dr. T. C. Allen, Bernie, who wishes to meet all the boys again. Dr. Allen is credited with originating the idea that gave birth to the Five County Group. Since the doctor has suffered from ill health for some time it will be a great pleasure to have all the old boys and the Five County Group meet with him at Bernie about the second Tuesday in December.

JOHN D. VANCLEVE, M.D.,

Corresponding Secretary.

NODAWAY COUNTY MEDICAL SOCIETY

The regular monthly meeting of the Nodaway County Medical Society was held in the first-floor lecture room of the Sisters of St. Francis Hospital, Maryville, September 9. The meeting was called to order at 7:45 p. m. by Dr. L. E. Dean, Maryville, in the absence of the vice president, Dr. R. C. Person, Maryville. The following members attended: Drs. C. T. Bell, K. C. Cummins, Hiram Day, L. E. Dean, Jack Rowlett, and W. M. Wallis, Jr., of Maryville; Dr. Charles D. Humberd, Barnard; and Drs. R. B. Bridgeman, Jr., and Charles W. Kirk, Hopkins. Guests present were Drs. Frank R. Teachenor and Ernest G. Marks, of Kansas City; Dr. W. R. Jackson, Maryville; Dr. J. M. Boyles, Conception Junction; Dr. B. F. Byland, Burlington Junction; Dr. S. E. Simpson, Stanberry; several sisters from the hospital staff; Drs. Earl Braniger, E. L. Enis, Jesse Miller, and H. L. Stinson, dentists, Maryville, and Dr. Ed. Miller, dentist, Hopkins.

The following report of the resolutions committee was read by the Secretary:

WHEREAS an all-wise Providence has removed from us our dear friend and our fellow-worker, Dr. William M. Hindman, Burlington Junction, be it

Resolved, That in the death of its president the Nodaway County Medical Society feels a great sorrow for it has indeed sustained a loss which it must always remember with sincerest bereavement, be it further

Resolved, That we realize fully his death has not only deprived the medical fraternity of a wholesome colleague, but also that the entire community in which he has lived so many years has lost a most faithful and conscientious practitioner and an untiring helper of those whom he served, be it further

Resolved, That a copy of these resolutions be spread upon the minutes of the Society, and a copy be sent to the family of Dr. Hindman.

CHAS. T. BELL,
L. E. DEAN,
C. V. MARTIN,
Committee.

Acknowledgments of and thanks for the Society's floral tributes from Mrs. Hindman and from Dr. R. C. Person, Maryville, were read by the secretary. Numerous short and extemporaneous expressions of the loss which the Society felt in the death of President Hindman were given by several members.

Dr. L. E. Dean, Maryville, discussed plans for the celebration of the Society's sixtieth anniversary at the regular meeting on November 11, 1932. Dr. C. T. Bell, Maryville, moved that a committee be appointed to make special arrangements and secure program features for this meeting. The motion was seconded and carried. The chair appointed Drs. C. T. Bell, Maryville, and C. W. Kirk, Hopkins, to this committee.

The meeting was then turned over to our Kansas City guests who had come as essayists for the evening through the courtesy of the Postgraduate Committee of the Missouri State Medical Association. Dr. F. R. Teachenor, Kansas City, presented an exceptionally good discussion of "Brain Tumors," with especial reference to symptomatology, diagnosis and localization. His paper was fully illustrated with radiographs and he quoted numerous explanatory case histories.

Dr. E. G. Marks, Kansas City, spoke on "The Importance of Early Diagnosis in Bladder Neck Obstruction." The doctor displayed much enthusiasm for the cauterization procedure in all early stages of prostatic hypertrophy. Both papers were of much value to the members.

Meeting of October 14

The Nodaway County Medical Society met in regular session, Friday, October 14, in the lecture room

of the Sisters of St. Francis Hospital at Maryville. The meeting was called to order by the vice president, Dr. R. C. Person, Maryville. Members present were: Drs. C. T. Bell, J. A. Bloomer, Hiram Day, L. E. Dean, C. V. Martin, R. C. Person, Jack Rowlett, and Wm. M. Wallis, Jr., of Maryville; Dr. Charles D. Humbert, Barnard; and Drs. R. B. Bridgeman and Charles W. Kirk, Hopkins. Guests present were Drs. Graham Asher and Joseph B. Cowherd, Kansas City, Mo.; Dr. B. F. Byland, Burlington Junction; Dr. W. R. Jackson, Maryville; Drs. Earl Braniger, E. L. Enis, Jesse Miller, and H. L. Stinson, dentists, Maryville, and several sisters from the hospital staff.

Dr. C. T. Bell, Maryville, reported as chairman of the special committee on program arrangements for the anniversary meeting next month.

The question of charity cases and the professional calls placed by the Maryville Welfare Board were discussed by Drs. L. E. Dean, Wm. M. Wallis, C. V. Martin, Hiram Day, J. A. Bloomer, and Jack Rowlett, of Maryville. The chair instructed Dr. Dean to report to the secretary of the welfare board that the Society's opinion is that a rotating service for charity patients would be found unsatisfactory, and that the board should make arrangements for regular services from some local physician.

The scientific program of the evening was given by the guests from Kansas City, who had come as essayists through the courtesy of the Postgraduate Committee of the Missouri State Medical Association. Dr. J. B. Cowherd, Kansas City, assistant professor of pediatrics in the University of Kansas Medical School, presented a lecture on "Thymic Disturbances in the New-Born." He stated that the typical thymic attack occurs in the second week, follows nursing or a crying spell, and is ushered in with choking, writhing, cyanosis and bradycardia. His theory of the etiology is that the "spell" is the result of pressure by the enlarged thymus on the great veins of the mediastinum and on the auricles with a disturbed auricular rhythm. Other theories of the causation are those concerned with a thymic hormone or with pressure on the inferior laryngeal nerve. The immediate treatment recommended is spanking and artificial respiration to be followed by roentgen ray therapy. The paper was elaborated with lantern slides of radiographs and numerous case histories. There was much discussion by members present of the lecturer's material and Dr. Cowherd by request gave a few brief remarks on "Status Lymphaticus."

Dr. A. G. Asher, Kansas City, discussed "The Diagnosis and Treatment of Insufficiencies of the Coronary Circulation," and dwelt at length on the recent advances in cardiology. He emphasized in particular the work of Herrick.

CHARLES D. HUMBERT, M.D., Secretary.

ST. FRANCOIS-IRON-MADISON COUNTY MEDICAL SOCIETY

The St. Francois-Iron-Madison County Medical Society met in the county court room at Farmington September 21. The meeting was called to order by Dr. D. Appleberry, River Mines, president.

A motion by Dr. W. E. Aubuchon, Leadwood, seconded by Dr. George L. Watkins, Farmington, that "Delinquent members living outside of the district shall be notified that unless their dues are paid within thirty days from the present date they will be dropped from membership." The motion carried.

A motion by Dr. O. A. Smith, Farmington, seconded by Dr. George L. Watkins, Farmington, that Dr. B. J.

Robinson, Farmington, be made an Honor Member for life without further payment of dues, carried.

The application of Dr. H. McClure Young, Arcadia, for transfer from St. Louis Medical Society into the St. Francois-Iron-Madison County Medical Society was read and submitted to the membership committee who will report on it at the next meeting.

Three very interesting papers were given and discussed by the members.

Dr. H. McClure Young, Arcadia, delivered a good paper on "Frequency and Incontinence of Urine in Women."

Dr. D. Appleberry, River Mines, gave a paper on "Office Treatment of Traumatic Surgery."

Dr. W. E. Aubuchon, Leadwood, spoke on "Tuberculosis in Childhood."

The next meeting will be held in October at Farmington.

C. H. APPLEBERRY, M.D., Secretary.

ST. LOUIS COUNTY MEDICAL SOCIETY

The St. Louis County Medical Society met at the St. Louis County Hospital, Clayton, September 14, with Dr. John H. Sutter, University City, president, in the chair.

The following physicians were admitted to membership: Drs. Ralph Neidringhaus, Clayton; Albert Wall, St. Louis, and Julius Jensen, St. Louis.

A communication from the Cape Girardeau County Medical Society was read which included the following resolution:

Resolved, That members of the Cape Girardeau County Medical Society desiring to uphold the altruistic principles of the profession, willingly offer their services gratuitously to the worthy poor in cooperation with and as recommended by reputable organizations, preferring individual rather than group examinations.

A questionnaire from the Missouri State Medical Association and the Missouri Tuberculosis Association was received asking the status of tuberculosis and its care in St. Louis County. Upon recommendation the president appointed the following committee to investigate and report: Drs. L. C. Obroch, St. Louis, chairman; R. B. Denny, Creve Coeur, and F. J. Petersen, Richmond Heights.

Dr. Clyde Dyer, Webster Groves, introduced the guests of honor who were Dr. Joseph Love, Springfield, President of the Missouri State Medical Association; Dr. James Stewart, Jefferson City, secretary of the State Board of Health; Dr. Emmett P. North, St. Louis, member of the State Board of Health, and Dr. E. J. Goodwin, St. Louis, Secretary of the State Medical Association.

Dr. Joseph Love, Springfield, gave a short address in which he stressed the importance and advisability of having hospitals approved by the American College of Surgeons. He also brought out a new method of admitting members into the Society, suggesting that the applicant be placed on probation for one year before he is given active membership. In so doing the novitiate can attend meetings and thus has a greater interest in the Society's affairs and has the habit of attending meetings.

Following the meeting Dr. Otto Koch, St. Louis, and the entertainment committee served a delicious sparerib barbecue.

Meeting of October 12

The October meeting of the St. Louis County Medical Society was held at 2:30 p. m. October 12 at the St. Louis County Hospital.

Dr. Roy Johnson was transferred from the St. Louis Medical Society and Dr. John Harold Hershey, St. Louis, was transferred from the Summit County (Ohio) Medical Society to the St. Louis County Medical Society.

The applications of Dr. Henry P. Rowlette, and Dr. Clarence O. Hughes, of Ferguson, were approved and memberships granted.

The scientific program was presented by Dr. Charles W. Ehlers, St. Louis, resident physician Mt. St. Rose Sanatorium, on "Surgical Aids in the Treatment of Tuberculosis."

The tuberculosis committee reported on its investigations and stated that in their opinion there is much which could be done to improve the home treatment of tuberculosis and suggested closer cooperation of the various societies interested with the general practitioner. The physician is the principal source of advice to the patient and the committee recommended that this phase be given more attention and that less attention be given to the present inadequate hospital facilities.

F. J. PETERSEN, M.D., Secretary.

WOMAN'S AUXILIARY

WOMAN'S AUXILIARY TO THE AMERICAN MEDICAL ASSOCIATION

11th Annual Meeting, Milwaukee, 1933

President, Mrs. Walter Jackson Freeman, Philadelphia, Pa.

President-Elect, Mrs. James Blake, Hopkins, Minnesota.

WOMAN'S AUXILIARY TO THE MISSOURI STATE MEDICAL ASSOCIATION

9th Annual Meeting, Kansas City, 1933

President, Mrs. David S. Long, Harrisonville.

President-Elect, Mrs. Hudson Talbott, St. Louis.

ORGANIZED COUNTIES AND PRESIDENTS

COUNTY	PRESIDENT AND ADDRESS
Boone.....	Mrs. C. M. Sneed, Columbia
Buchanan.....	Mrs. C. H. Werner, St. Joseph
Cass.....	Mrs. H. A. Brierly, Peculiar
Cape Girardeau.....	Mrs. W. W. Ford, Gordonville
Clay.....	Mrs. H. J. Clark, Excelsior Springs
Cole.....	Mrs. James T. Leslie, Jefferson City
Gentry.....	Mrs. W. S. Campbell, Albany
Greene.....	Mrs. W. C. Cheek, Springfield
Jackson.....	Mrs. Wilbur A. Baker, Kansas City
Jasper.....	Mrs. Ulysses G. Hoshaw, Joplin
Johnson.....	Mrs. William R. Patterson, Warrensburg
Lafayette.....	Mrs. Odus Liston, Oak Grove
Linn.....	Mrs. Ola Putman, Marceline
Livingston.....	Mrs. Reuben Barney, Chillicothe
Miller.....	Mrs. G. D. Walker, Eldon
Randolph-Macon.....	Mrs. P. C. Davis, Moberly
St. Louis City.....	Mrs. A. G. Wichman, St. Louis
Saline.....	Mrs. L. S. James, Blackburn
Vernon-Cedar.....	Mrs. T. B. Todd, Nevada
26th District.....	Mrs. W. H. Breuer, St. James

The Woman's Auxiliary welcomes into its organization a new member, the Woman's Auxiliary to the Miller County Medical Society, organized July 28 at the home of Dr. and Mrs. W. L. Allee of Eldon. The state president, Mrs. David S. Long, was present and aided in the organization. Mrs. G. D. Walker, Eldon, was elected president, and Mrs. O. G. James, Iberia, secretary.

The Johnson County Auxiliary recently suffered the loss of one of its beloved and useful members in the death of Mrs. John T. Anderson, Warrensburg, its secretary and press and publicity chairman. Mrs. Anderson had been sick only one week and died September 12 of pneumonia. Her official work in the county auxiliary has been assigned to Mrs. John A. Powers, Warrensburg.

At the twenty-fifth annual convention of the Missouri Tuberculosis Association at Jefferson City September 19 to 22, the Woman's Auxiliary to the State Medical Association sponsored a luncheon and program on September 20. The president of the Auxiliary, Mrs. David S. Long, Harrisonville, presided. During the program following the luncheon, Mrs. Hudson Talbott, St. Louis, president-elect and chairman of the essay contest, explained the contest sponsored by the Auxiliary on the "Prevention and Care of Tuberculosis."

While this contest is confined to counties having a Medical Society Auxiliary, yet Mr. J. W. Becker, Executive Secretary of the Tuberculosis Association, estimates that the schools of half the population of the state will come within the range of this essay contest, and that the study and research undertaken in this contest by the students of the upper grades and high schools will disseminate in an uncommonly thorough way much needed information on this increasingly important subject.

The story was told by Mrs. M. P. Overholser, state chairman of publicity, of the way in which the Woman's Auxiliary in Delaware had cooperated the past year with the state tuberculosis association and the Medical Association in arranging for and holding thirty-nine free clinics for people who wanted "to go to the doctor before he had to come to them," discovering in this way and heading off incipient tuberculosis and other diseases. This is a fine illustration and recommendation of the value of periodic health examinations.

After the meeting the state president, Mrs. Long, held a conference with Mrs. J. T. Leslie, local president and second vice president of the state auxiliary; Mrs. S. P. Howard and other representatives of the Cole County Auxiliary.

Other county auxiliaries visited recently by Mrs. David S. Long were the Boone County Auxiliary at Columbia September 22, and the Randolph-Monroe Auxiliary at Moberly, September 23. A luncheon was given by each auxiliary in honor of the state president, who talked on both occasions on the reasons for their organization, the opportunities for service to the medical profession and to their communities, the accomplishments by the Auxiliary in Missouri and in other states, and on this year's program in Missouri.

A public relation's tea sponsored by the Woman's Auxiliary to the Lafayette County Medical Society was held at the public library in Lexington September 27. Dr. George H. Hoxie, Kansas City, president of the Missouri Tuberculosis Association, was the speaker. The following were invited to attend this social and educational function:

The county pastors and their wives, a representative from each church society in the county, the county extension agent, the county home demonstration agent, county physicians and dentists and their wives, superintendents of schools in towns and in the county and their wives, presidents of parent-teacher associations, welfare officers, the press and the president

and one other member of each civic and service club in the county.

Missouri was honored in having within her gates, September 21 to 26, Mrs. Walter Jackson Freeman, of Philadelphia, president of the National Auxiliary. Mrs. Freeman was the guest of Mrs. A. B. McGlothlan St. Joseph, last year's national president. Mrs. Freeman came to Missouri to confer with Mrs. McGlothlan on phases of national policy including the Auxiliary Handbook soon to be issued by the national and state Auxiliary officers and chairmen.

Mrs. McGlothlan gave a luncheon in honor of Mrs. Freeman at the St. Joseph Country Club September 23. The Buchanan County Auxiliary and members of other auxiliaries were present.

The Jackson County Medical Society must certainly feel proud of its Auxiliary for the very splendid way it arranges and carries out the social calendar for the week when the Southwest Clinical Society is meeting in Kansas City. This year the date was October 3-8. To the visiting ladies these pleasant diversions were offered:

Tuesday, a luncheon at the Woman's City Club; Wednesday, a conducted tour through the new and magnificent Nelson Art Gallery, a tea and musicale at the home of Mrs. Franklin E. Murphy; Thursday evening, a theatre party; Friday, a drive and buffet supper at Quivira Lake.

The state president, Mrs. David S. Long, took advantage of the presence in Kansas City during the week of the Clinical Conference of many physicians and their wives to call a meeting of the state board on October 6. Twelve officers and chairmen and five county presidents were present.

The president-elect, Mrs. Hudson Talbott, motored across the state to be present at this board meeting and to report the growing interest in the essay contest on the "Prevention and Care of Tuberculosis."

The state chairman for *Hygeia*, Mrs. C. T. Ryland, Lexington, reported fine progress toward attaining the *Hygeia* quota assigned to Missouri.

The chairman of the Committee on Public Relations, Mrs. Frank B. Henderson, reported the assistance available from the Andrew McAlester Memorial Foundation and the Postgraduate Committee of the State Medical Association in providing speakers for the public relations meetings sponsored by the component auxiliaries.

Mrs. A. B. McGlothlan, national program chairman, gave an impressive talk on the value of the educational program and material supplied by the National Auxiliary to the states.

Mrs. M. P. Overholser reported on Auxiliary publicity in Missouri and activities in other states.

Mrs. Long announced the next board meeting would be held in St. Louis in January.

TRUTH ABOUT MEDICINES

NEW AND NONOFFICIAL REMEDIES

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

TRIPHAL.—A product consisting essentially of sodium aurothiobenzimidazole carboxylate with a small amount of a product of indefinite composition. Triphal contains from 44 to 47 per cent of gold. It

is proposed for use as a gold salt in the treatment of lupus erythematosus. The product is supplied in 0.025 Gm. and 0.1 Gm. ampules. H. A. Metz Laboratories, Inc., New York.

LIVER MEAL.—A mixture containing desiccated beef liver 81 per cent, malted milk 18 per cent, and powdered cinnamon 1 per cent. Liver Meal is prepared to meet the need of a concentrated liver diet in a form that is palatable and convenient. Livermeal Corporation, Hoboken, N. J.

SCARLET FEVER STREPTOCOCCUS ANTITOXIN REFINED AND CONCENTRATED (National).—A scarlet fever streptococcus antitoxin (New and Nonofficial Remedies, 1932, p. 364) prepared by inoculating horses with scarlet fever streptococcus toxin and live virulent cultures of scarlet fever streptococci by license of the Scarlet Fever Committee, Inc. It is marketed in syringe packages of 2,000 units (prophylactic dose); in syringe packages of 6,000 units (therapeutic dose); and in single 1 c.c. vial packages (for the diagnostic blanching test). National Drug Co., Philadelphia. (Jour. A. M. A., August 13, 1932, p. 562.)

FOODS

The following products have been accepted by the Committee on Foods of the American Medical Association for inclusion in Accepted Foods:

CELLU GELATIN DESSERT. Assorted Flavors. Unsweetened (The Chicago Dietetic Supply House, Inc., Chicago).—Unsweetened, flavored and colored granular gelatin mixed with tartaric acid and a small quantity of salt. The flavors of the respective products are terpeneless oils of orange and lemon; and true fruit extracts of raspberry, cherry and grape fortified with imitation flavors of aldehydes and esters. These dessert powders are claimed to be especially intended for the preparation of pleasantly flavored and colored "carbohydrate free" gelatin desserts.

COMET BROWN RICE (Comet Rice Company, New York).—A packaged whole grain rice; contains the bran and germ. It is claimed to be suitable for all table uses of rice.

ATRY FAIRY KWIK-BIS-KIT (Commander-Larabee Cereal Company, subsidiary of the Commander-Larabee Corporation, Minneapolis, Minn.).—A self-rising flour containing vegetable shortening, acid phosphates, sucrose, baking soda, powdered skim milk and salt; especially prepared for biscuits. It is claimed to be a self-rising flour requiring only admixture with water or milk for the preparation of biscuits.

TAR HEEL BREAD (Waldensian Baking Company, Valdeese, N. C.).—A white bread made by the sponge dough method.

VB (Visscher Brothers) OLD FASHIONED APPLE SAUCE (Lyndonville Canning Company, Inc., Lyndonville, N. Y.).—Canned apple sauce prepared from peeled and cored apples with added sucrose. It is claimed to be a slightly sweetened apple sauce for table use.

PILLSBURY'S BEST FLOUR (Bleached) (Pillsbury Flour Mills Company, Minneapolis).—An "all purpose" patent flour prepared from a variety of wheats.

H. G. F. BRAND GOLDEN SYRUP (D. B. Scully Syrup Company, Chicago, packer; H. D. Lee Mercantile Company, Kansas City, Mo., distributor).—A corn syrup (85 per cent) flavored with refiners' syrup (15 per cent). It is claimed to be a syrup for cooking, baking and table use, and suitable as a

carbohydrate supplement for milk modification for infant feeding.

SQUIBB VITAVOSE (E. R. Squibb and Sons, New Brunswick, N. J.).—A powdered extract of malted wheat germ and U. S. P. malt; essentially maltose, dextrins and "starch intermediate products"; contains vitamins B and G in substantial quantities; packed in tins. It is claimed to be intended especially for the carbohydrate, food iron, and vitamins B and G supplement of milk for infants or malnourished adults and children, expectant and nursing mothers, invalids and convalescents.

DEAN'S QUALITY EVAPORATED MILK (Dean Milk Company, Chicago).—An unsweetened, sterilized evaporated milk. It is claimed to be for general cooking, baking and table uses and infant feeding. The mixture of equal parts of the evaporated milk and water is not below the legal standard for whole milk.

KRE-MEL DESSERT (Chocolate Flavor) (Corn Products Refining Company, New York).—A mixture of dextrose, corn starch, sucrose, cocoa; flavored with vanillin. It is claimed to be a dessert powder for the simple preparation of table desserts.

FOODTOWN RICE POPS (Foodtown Kitchens, Inc., Chicago).—Popped and toasted rice flakes made from cooked whole rice flakes flavored with malt extract, sugar and malt. (Jour. A. M. A., August 6, 1932, p. 476.)

UFFELMANN'S RYE BREAD (The Uffelmann Baking Company, Cincinnati).—A rye bread made by the straight dough method. It is claimed to be a bread of good quality.

MEAD'S FLORENA (Mead Johnson & Co., Evansville, Ind.).—A partially cooked and moderately baked patent wheat flour. It is claimed to be a partially dextrinized wheat flour for use in infant feeding, and to be especially indicated as a routine cereal diluent, in cases of sugar intolerance, as a base for "butter-flour mixtures," and for high starch feedings.

GOLDEN KEY EVAPORATED MILK (Pet Milk Company, St. Louis, manufacturer; Golden Key Milk Products Corp., St. Louis, distributor).—An unsweetened evaporated milk complying with the U. S. Department of Agriculture definition and standard for evaporated milk. The product may be used for cooking, baking and other purposes as is ordinary milk.

FRENCH LICK PURE TOMATO JUICE (Tomato Products Company, Paoli, Ind.).—A canned or bottled tomato juice retaining in high degree the vitamin content of the raw juice; seasoned with salt. This tomato juice is claimed to be a good source of vitamins A and B and an excellent source of vitamin C. It is recommended for general table use and as an accessory vitamin C food for infant feeding.

N. J. C. BRAND PANCAKE SYRUP (D. B. Scully Syrup Company, Chicago, packer; Northern Jobbing Company, Chicago and St. Paul, distributor).—Corn syrup (85 per cent) flavored with refiners' syrup (15 per cent). It is claimed to be a syrup for cooking, baking and table use, and suitable as a carbohydrate supplement for milk modification for infant feeding.

HIRES ROOT BEER (Charles E. Hires Company, Philadelphia).—A water solution or suspension of caramel and aqueous extracts of sassafras, sarsaparilla, licorice and ginger roots, juniper berries, dog grass, birch bark, hops, spikenard and pipissewa herbs, vanilla beans and wintergreen and deer ton-

gue leaves. It is claimed to be for the preparation of "root beer" and fountain syrup beverages.

HUMMER HIGHEST PATENT FLOUR, MENU HIGHEST PATENT FLOUR (Slater Mill & Elevator Company, Slater, Mo.).—An "all purpose" short patent flour prepared from soft red wheat; bleached. It is claimed to be a flour for general baking uses. (Jour. A. M. A., August 13, 1932, p. 562.)

SCHULZ PAN DANDY BREAD, SCHULZ BAMBY BREAD (Sliced and Unsliced) (Schulz Baking Company, Pottstown, Pa.).—A white bread made by the sponge dough method. It is claimed to be a bread of good quality.

COMET BROWN RICE FLAKES (Comet Rice Company, New York).—A flaked, cooked and toasted brown rice containing added malt syrup, salt and sugar. It is claimed to be a ready to eat brown rice cereal.

HARDY'S TWIN LOAF BREAD (Hardy Baking Company, Flint, Mich.).—A white bread made by the sponge dough method. It is claimed to be a bread of good quality. (Jour. A. M. A., August 20, 1932, p. 655.)

SQUIBB DEXTRO-VITAVOSE (E. R. Squibb & Sons, New Brunswick, N. J.).—A powdered mixture of dextrose and extract of malted wheat germ and U. S. P. malt; essentially dextrose, maltose, dextrins and "starch intermediate products." Vitamin assay shows a content of vitamins B and G at least equal to 30 times and 10 times, respectively, of that of equal weights of fresh raw whole milk. It is claimed to be intended particularly for the carbohydrate, and vitamins B and G supplement of milk for infants, and as a similar diet supplement for children and adults.

HECHT'S KEEB BEE BREAD, HECHT'S SLICED BREAD (Hecht's Bakery, Bristol, Tenn.).—A white bread made by the sponge dough method. It is claimed to be a bread of good quality.

VI-ZOY (Harshaw Essential Foods, Inc., Cleveland).—A powdered food for the preparation of a nutritious beverage; contains sucrose, soy bean flour, cocoa, lactose, maltose, dextrose, dried yeast, butter coconut and cottonseed oils, cod liver oil and cod liver oil concentrate, calcium, iron and magnesium lactate, potassium and sodium chlorides, commarin, vanillin and other flavoring. It contains vitamins A, B, D and G. It is claimed to be a powdered food for the preparation of a table beverage with milk, for food tablets, etc. It is also claimed to enhance or supplement the vitamins A, B, D and G values, iron and calcium content, and caloric value of milk.

BOOK REVIEWS

ANNUAL REPRINT OF THE REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR 1931. Cloth. Price \$1.00. Pp. 100. Chicago: American Medical Association.

This volume contains the collected reports of the action of the Council on Pharmacy and Chemistry on all products which have been found unacceptable or which have been omitted from New and Nonofficial Remedies during the past year. It contains also the special reports authorized by the Council during the year and preliminary reports on articles which show promise but which are not yet ready for ad-

mission to New and Nonofficial Remedies nor suitable for general use by the medical profession. Among the reports on products found unacceptable are those on Thymophysin, a preparation of posterior pituitary and thymus, advocated as a safe and reliable means of accelerating delivery and marketed under false claims as to its essential action, as to its strength, and as to its safety for mother and child; on Bismuthoidal, claimed to be colloidal bismuth, and marketed with unwarranted claims of value in the treatment of syphilis intravenously; on Frenly Enema Cream, a complex, unscientific mixture, marketed under a therapeutically suggestive name with unwarranted claims of therapeutic value in a host of conditions; on Hayner's Normaline, an original preparation of formaldehyde and zinc chloride marketed under a noninforming name without a quantitative statement of composition on the label or in the advertising and with unwarranted and misleading claims; on Pernocton, a barbituric acid product marketed under a therapeutically suggestive name and with unacceptable recommendations for intravenous use; on Solution Normet, an unscientific mixture of citrates, marketed with unwarranted claims; on Alqua Water, Calso Water, and Alka Water, irrational, proprietary "alkalizing" mixtures marketed with unwarranted and misleading claims. The preliminary reports on Nucleotide K 96, a preparation of pentose nucleotides which has shown promise in the treatment of leukopenia, and on Carbarsone, p-carbamino-phenyl arsonic acid, proposed for use in amebiasis but needing further confirmatory evidence of value, are both timely and interesting. Perhaps the most noteworthy are the special reports. The Intravenous Use of Barbitol Compounds and The Average Optimum Dosage of Cod Liver Oil. The former gives the Council's considered verdict on the dangers and limitations of the use of barbitals intravenously and the latter gives the result arrived at from a questionnaire sent to leading pediatricians.

PRINCIPLES OF PREOPERATIVE AND POSTOPERATIVE TREATMENT. By Reginald Alex Cutting, M.D., C.M., M.A., Ph.D., Assistant Professor of Surgery, Louisiana State University Medical Center, etc. Foreword by Rudolph Matas, New Orleans. With 76 illustrations. New York: Paul B. Hoeber, Inc. 1932. Price \$10.00.

Our era has witnessed a rapid advance in surgical diagnosis and operative technic consequent largely in the first instance upon the newer methods of precision evolved in the laboratory, and in the second upon the relative freedom conferred by our knowledge of asepsis. The natural enthusiasm begotten of such signal success has at times warped our perspective so that, as the author quite appropriately quotes, we have been inclined to place too little emphasis upon the rather obvious fact that the most important person present at any operation is the patient himself.

Recognizing this tendency, Cutting has attempted to rationalize our study of the patient both before and after the operation by emphasizing the principles on which present day surgical treatment depends. No more compendium of methods has been elaborated; rather, it seems this book is based on the philosophy learned not only in the clinical laboratory but upon its basic application in practice.

As a safe guide to modern preoperative and postoperative bedside methods this volume can be

thoroughly recommended to surgical house officers; by its sane approach to the many intricate problems confronting the man in practice and the excellent summary of the literature it should find a welcome on the reference shelf of the modern surgeon.

P. S. L.

LABORATORY TECHNIQUE. By R. B. H. Gradwohl, M.D., Director, Gradwohl School of Laboratory Technique; Pathologist to the Coroner of the City of St. Louis. Lieutenant Commander, Medical Corps, Fleet—United States Naval Reserve. With the collaboration of I. E. Gradwohl, Associate Director; A. S. Gradwohl, Assistant Director. With 148 original illustrations. St. Louis: Gradwohl School of Laboratory Technique. Price \$8.00.

With remarkable completeness this book presents a survey of the procedures used in all departments of the laboratory. It answers the unusual as well as the usual questions which may confront the technician. It is of particular value to the physician who maintains his own laboratory, and to the intern who is required or who wishes to delve into the scientific side of medical practice.

The arrangement of the text is simple; the language is clear. It is obvious that this is the work of one who is a teacher of large experience. A fine future is predicted for this book.

R. A. K.

THE PRACTICAL MEDICINE SERIES. Comprising Eight Volumes on the Year's Progress in Medicine and Surgery. General Surgery. Edited by Evarts A. Graham, A.B., M.D., Professor of Surgery, Washington University School of Medicine; Surgeon-in-Chief of the Barnes Hospital and of the Children's Hospital, St. Louis. Series 1931. Chicago: The Year Book Publishers.

For those who want to have in convenient form for reference, abstracts of the best surgical literature of the year this is an admirable book. In it are covered practically all the subjects of general surgery from anesthesia and asepsis and antisepsis through operative technic and surgery of the special organs or regions, each in a most comprehensive way. Not the least valuable part of the book are the critical comments on the special abstracts made by the editor, and his comments in the introduction on some of the outstanding literature of the year.

M. B. C.

AN INTRODUCTION TO DERMATOLOGY. By Norman Walker, Kt., M.D., assisted by G. H. Percival, M.D. Ninth edition. Price, 20 shillings. Pp. 372, with 100 plates and 92 illustrations. Edinburgh: W. Green & Son, Ltd., 1932.

Many of us older medical men "cut our dermatological teeth," as it were, on Walker's "Introduction to Dermatology." A better or more reliable little book on skin diseases has never been written.

The volume has increased in size—it could not have been improved in quality—with the years and now, in the ninth edition, we have this beautiful handbook, sumptuously illustrated with one hundred colored plates and ninety-two illustrations in black and white, and scientifically up to the minute.

Dr. Percival, Sir Norman's associate at the Edinburgh Royal Infirmary, and one of the leading younger dermatologists of Great Britain, has collaborated in the detail work. The personalities of

the two men blend most happily. The result is a book of outstanding merit as well as beauty.

Probably it is needless to suggest that the volume is one which should have a place on the shelf of every practitioner—medical men have found that out for themselves—and for more than thirty years Walker's "Introduction to Dermatology" has occupied a place alongside of Gray's "Anatomy" and Osler's "Practice." Physicians have found it to be an excellent and reliable working tool and "a friend which, like good wine, grows better with the years." R. L. S.

PHARMACOLOGY OF THE MEDICINAL AGENTS IN COMMON USE. By Stanley Coulter, Ph.D., Sc.D., Dean Emeritus of the Purdue University School of Science. Pocket size, bound in flexible fabricoid, two hundred and fifty-four pages. Indianapolis: Eli Lilly & Company, 1932. Price 50 cents postpaid.

A convenient and conservative manual on the actions, dosages and uses of the ordinary pharmaceuticals arranged on the dictionary plan for ready reference. The notes are good and quite complete. This little treatise will save many minutes when a brief statement only is needed and the more voluminous standard texts are not available. Useful tables of incompatibilities, antidotes, exanthemata, abbreviations, urinalyses, various rules, etc., are given in an appendix. C. D. H.

SALT-RESTRICTED DIETARY WITH PARTICULAR APPLICATION TO TUBERCULOSIS THERAPY

EDGAR MAYER, Saranac Lake, N. Y. (Journal A. M. A.), believes that in the face of existing uncertainties it is clear that any conclusion about a diet for tuberculous patients must rest on large clinical experiments properly controlled over a considerable period of time. From such experiments and subsequent theoretical interpretations, a diet has recently been promulgated by Gerson, Sauerbruch and Hermannsdorfer. The principles of their recommendations embrace the whole field of body chemistry and involve a change in the soil in which the tubercle bacillus grows. The essentials of this diet are: 1. The all but complete exclusion of sodium chloride, with a sodium-poor but calcium-rich salt compound being used as a substitute. 2. (a) A large percentage of uncooked fresh vegetables in the diet, either in the form of vegetable extracts prepared by pressing uncooked vegetables, such as carrots, beets, spinach and turnips, or in the form of salads with added fruit juices similarly prepared. (b) Preparation of cooked vegetables in their own juices in waterless cookers. 3. Marked restriction of meats; Hermannsdorfer and Sauerbruch allow 600 Gm. weekly, Gerson much less. The author reviews a few reported conclusions on the value of this diet, and adds his own impressions resultant from the observation of his own cases and of the cases of others that he has been privileged to study in the past two and a half years. He concludes that in this question of the mineral salt metabolism, it is possible that certain constitutions will react favorably to the withdrawal of table salt. And it is equally possible that some individuals will improve on a larger vitamin intake, the two factors correlating in some way biochemically. But any schematization of the dietary therapy for all constitutions must be rejected. A universally efficacious curative treatment of tuberculosis does not exist, but the resistance of inferior

constitutions and of defective or deficient organic functions can be raised by correct dietary treatment, and the raising of this resistance represents the meritorious aspect of these new endeavors. Evaluation of specific factors must be held in abeyance.

SENSITIZATION DERMATOSES OF NON-FUNGUS NATURE FOLLOWING SUPERFICIAL FUNGUS INFECTIONS ("RING-WORM") OF EXTREMITIES

According to Cleveland White and Samuel J. Taub, Chicago (Journal A. M. A., Feb. 13, 1932), superficial fungous infections (ringworm) of the extremities and elsewhere may be followed by secondary sensitization dermatoses of nonfungous nature. Such dermatoses may be confused with dermatophytid eruptions; future studies may show that some may be a part of a dermatophytid as at present conceived. Detailed individual study and properly performed sensitization skin tests usually will discover the offending substances. Four illustrative cases are cited; an insufficient number of cases has been studied to incriminate any specific organism or any particular class of proteins or substances.

SPORADIC SEPTIC SORE THROAT

According to ISADORE PILOT and DAVID J. DAVIS, Chicago (Journal A. M. A.), sporadic sore throat most often is due to hemolytic streptococci; the streptococci in 10 per cent of the cases observed by them corresponded in their cultural characteristics to the *Streptococcus epidemicus* of epidemic septic sore throat. Septic sore throat due to *Streptococcus epidemicus* in its usual form is sporadic. The epidemic type is unusual, requiring the development of a streptococcus mastitis in the cow whose milk becomes the source of the epidemic. A carrier state for *Streptococcus epidemicus* may follow sporadic sore throat. Such carriers are probably responsible for the direct transmission of sore throat. The streptococci reside in the crypts of the tonsils; tonsillectomy is followed by their disappearance from the throat. In its clinical manifestation, sporadic sore throat due to *Streptococcus epidemicus* varies from very mild to severe types. Patients devoid of tonsils may be affected and may give symptoms of an infection of the upper respiratory tract, in some ways resembling influenza. Complications may arise immediately, such as otitis media, mastoiditis and cervical adenitis; sequelae may develop from ten to thirty or more days after the onset. Acute polyarthritis, endocarditis, glomerulonephritis and erythema nodosum were the most noteworthy and were often associated with mild recrudescent sore throat and fever. The complications and sequelae in the cases observed by the authors were due to *Streptococcus epidemicus*. The appearance and disappearance of these organisms in the throat frequently could be demonstrated with the development and termination of the complications. *Streptococcus epidemicus* constitutes probably a group among the hemolytic streptococci. Its capsule and large colony formation appears to be identified with an aggressiveness greater than that of ordinary hemolytic streptococci and with a peculiar tendency to cause fatal peritonitis and meningitis. Its exact status remains unsettled. *Streptococcus epidemicus* produces toxin which gives skin reactions in man specifically different from toxin of *Streptococci* of scarlet fever. Injected into animals, the toxin leads to the formation of an antiserum with neutralizing properties.

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E. J. GOODWIN, M.D., Editor
1023 Missouri Building, St. Louis, Mo.
Telephone, Jefferson 5261.

PUBLICATION COMMITTEE { J. C. B. DAVIS, M.D., Chairman
G. WILSE ROBINSON, M.D.
M. A. BLISS, M.D.

HUNGER-OSTEOMALACIA

REPORT OF A CASE-RECOVERY *

CHARLES H. EYERMANN, M.D.

ST. LOUIS

During the year 1918 there occurred in Austria and Germany an affliction characterized by pain in the bones which was usually interpreted as rheumatism. The pains were most frequently present in the ribs, back and lower extremities. With progression of the affliction there ensued difficulty in climbing stairs, a characteristic waddling gait and loss of stature. Eventually the sufferers became bed fast, being able to move only with assistance and then with great pain. Deformity as a rule was confined to kyphoscoliosis of the spine but spontaneous fractures were not infrequent. The bones of the pelvis were seldom involved.

Edelmann¹ was the first to report this affliction and he termed it osteomalacia or an osteomalacia-like symptom complex. He thought it was due to the effect of the then existent diet in those of a particular constitutional disposition which was the result of a pluriglandular endocrine deficiency. He also considered that the endocrine defect could be the result of the improper diet.

In rapid succession, Schlesinger,² who termed the affliction hunger-osteomalacia, Schiff,³ Porges and Wagner,⁴ who called it hunger-osteopathy, and Fromme⁵ reported series of patients with similar symptomatology. With the exception of Fromme's cases, which occurred in hard-working adolescent males, 15 to 18 years of age, the majority of cases were found in the later years of life, often in the sixth and seventh decades, and in both sexes, the females predominant. It differed from the better known puerperal osteomalacia in its slower development and absence of marked pelvic deformity. All these observers believed the disease

was coincident with food deprivation; in addition, most of them thought that undernourishment affected the activities of the endocrine glands so as to produce a disordered bone metabolism.

Later, Dalyell and Chick⁶ summarized their observations on over 600 cases, 204 of which were selected for special study. This great variety of material allowed a study of the disease in all stages and resulted in the following clinical description:

CLINICAL DESCRIPTION

The initial symptom was difficulty in walking, owing to pain in the tarsal and metatarsal bones, generally accompanied by edema of the feet and ankles. The edema when present subsided after some weeks, but without diminution of pain on walking. The lumbar and sacral regions were next affected, and stooping or walking was accompanied by severe pain in these areas of an intense and persistent nature. Thoracic symptoms developed later with pain on compression of the ribs, progressing from lower to upper ribs; pain was often felt also on coughing or deep breathing. Arms, shoulders and hands were not so often affected, and face symptoms were present only in the most severe cases.

The disease was afebrile and progressed from the early condition with mere discomfort in walking to a bedridden state in which any movement of the body caused agonizing pain. The following description applies to the ambulatory cases of moderate severity which came most commonly under observation:

AMBULATORY CASES

The patient had a characteristic expression, the face sallow, the eyes sunken and with an expression of suffering. The skin was dry, harsh and loose, the body anemic, flabby and ill nourished, but not usually emaciated. Movement was painful and in walking the body was bent forward and, as a rule, support of a stick in one or both hands was necessary. The waddling gait and the difficulty in mounting steps were so characteristic that it was easy to detect sufferers from the disease among the people in the street, especially when endeavoring to enter trams or vehicles. The legs were widely spaced, the feet hardly lifted from the ground in short shuffling steps, and the body moved stiffly from side to side in the endeavor to limit as much as possible swinging movement of the hips. Attempts to step upwards, as in mounting stairs, failed unless a support could be grasped with the hands and the body pulled up by the

* From the Department of Medicine, Washington University School of Medicine.

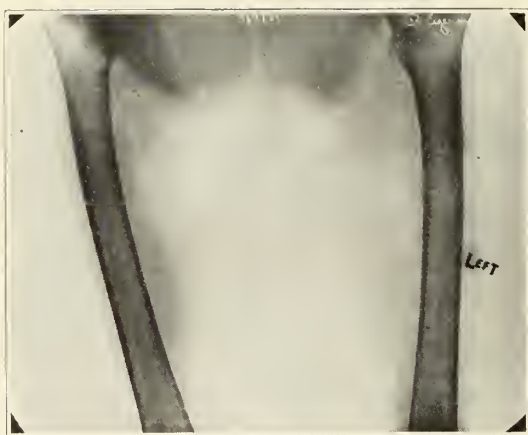


Fig. 1. Roentgenogram of right and left femur before treatment.

shoulder muscles. The pains were always associated with movement. As long as the patient could remain motionless, whether lying, sitting, or standing, there was little discomfort; but movements in which the trunk muscles were involved, as in bending, turning, sitting up or walking, caused acute pain which was always worse with the preliminary muscular effort.

The hands, arms and shoulders, being seldom affected, were much used in carrying out movements. Thus the patient would change from lying to sitting, or from sitting to standing, with the help of arms and hands; and in a severe case would get in or out of bed only after flexing the legs by lifting the thighs with the hands over the edge of the bed. The defective action of the body muscles was not due to loss of power but to voluntary limitation of movement owing to apprehension of pain. Many movements only became painful when pressure or weight was exerted on the parts concerned. For example, if the patient could support the body by grasping a fixed object with the hands, the foot could be lifted from the floor and the leg flexed at the hip and knee without obvious discomfort, but a similar movement to carry the body up a step was often impossible, from the severe pain produced by throwing the weight of the body on one side of the pelvis.

Systematic examination of patients showed certain areas where manual pressure was almost invariably painful. Such pressure points were always over bones. The joints were rarely involved and muscular masses were never sensitive. The tarsal bones, especially the head of the astragalus and the proximal ends of the metatarsals, were usually sensitive; also the lower ends of the tibia and fibula and the anterior and inner borders of the tibia in its lower half; the lower two thirds of the shaft of the femur was occasionally sensitive. The knee joint was rarely involved, and the hip joint was always free from pain. The most sensitive pressure area was the sacral and lumbar region, e. g., over the sacro-iliac joints and transverse processes of the lumbar vertebrae. Severe pain was always felt in this area during stooping or bending movements and this symptom was always marked and persistent. The iliac crests, pubic rami and pubic symphysis were seldom affected and deep pressure through the abdominal wall on the inner surface of the ilium was never painful. Bony deformity of the pelvis did not occur in any case seen by us.

Sudden abduction of the flexed thighs usually

caused severe pain over the lesser trochanter and at the site of the insertion of the abductor muscles, a symptom attributed to sudden tension of the iliopsoas and adductor muscles. This formed one of the chief diagnostic features of the disease and was an important indication of its progress or remission.

In almost every case, sudden compression of the ribs caused acute pain, felt most severely in the axillary line. The lower four ribs were commonly affected; in severer cases the fourth to eighth ribs also, and the upper ribs were rarely involved. Here also the pain was evidently associated with tension of the intercostal muscles. The thoracic vertebrae and posterior rib junctions were not sensitive nor were the costochondral junctions and costal cartilages. Pressure on the sternum sometimes caused pain but it was not often severe. The bones of the face were sensitive only in certain advanced cases and this symptom yielded readily to treatment. When present, the painful pressure points were over the supra-orbital ridges, malar bones, nasal bones and along the mandible.

The muscles were not painful when handled, showed neither wasting nor other deformity and their contractile force was not diminished. It was therefore unlikely that the whole muscle was involved in the existing lesion. The nerve reflexes were normal and there was no evidence of peripheral neuritis nor of damage to nerve trunks; so it was improbable that the symptoms of the disease could be due to nerve involvement only. The association of tetany with the disease was not infrequent.

The degree to which bones were involved in the lesion was difficult to determine. The sensitive areas were limited. Bony deformity was not seen by us, but has been described by others. In one instance, spontaneous fracture of the femur also occurred in a woman aged 32.

The disease occurred chiefly among the poorest classes and also among the middle-class people in reduced circumstances. The diets of these patients consisted mainly of vegetables and bread with small amounts of flour and sugar. Milk, butter, eggs and meat were unobtainable and a small amount of lard was the only fat. It occurred especially in people past middle age (40 to 70) and had



Fig. 2. Roentgenogram after 13 months of treatment.

nearly an equal distribution between the sexes. There was a greater incidence of cases during the winter.

This study considered diet as a factor of specific importance and included the effect of the following additions to the diet: (1) Influence of sugar and cereals, i. e., extra calories without fat; (2) influence of vegetable fats; (3) butter and eggs; (4) cod liver oil. Cod liver oil was the most efficacious, with less rapid progress obtained with the other fats and progress in only the very mild cases by the addition of extra calories.

Hume and Nirenstein⁷ determined the comparative clinical results by administering to one group a plant oil (subsequently identified as belonging to the rape oil group) containing phosphorus, and cod liver oil to the other group. It was found that the smallest dose of plant oil gave the worst result and the largest dose of cod liver oil the best; the smallest dose of cod liver oil was better than the largest dose of plant oil. From these studies (Dalyell and Chick,⁶ Hume and Nirenstein⁷) it seems that vitamin A is necessary to effect a cure.

Pathological reports of this type of osteomalacia are few. Partsch,⁸ among a total of 212 necropsies occurring in the course of two months in 1919, had 15 instances (11 women and 4 men) of this disorder. None had deformities of the extremities and in none was the skull involved. The only case under 60 years of age was a male. Partsch regarded the histological lesions as those of true osteomalacia and not as a new nutritional disorder of the osseous system. The distinctive histological feature was the extreme degree of osteoporosis. Further, he had observed similar cases for many years; in 1904, there were 8 among 332 autopsies, 6 of them being



Fig. 4. Roentgenogram after 13 months of treatment.

of the senile form, the other 2 in women aged 36 and 42, respectively; in 1905, there were 10 out of 345 autopsies, 7 being of the senile form. In the years 1908 to 1910, there were 15 instances of osteomalacia, 6 of them of the senile type. He considered the only noteworthy point to be the unusual increase in the number of instances.

I am indebted to Dr. Archer O'Reilly for the opportunity to study a patient with the symptom complex of hunger-osteomalacia.

REPORT OF CASE

The patient, a white man aged 59, hotel night clerk, seen July 1, 1931. Complaint was that movement caused pain about both knees and in the back which produced difficulty in walking. For the past year he had been practically bedridden. Pain was induced by walking which could be accomplished only with assistance. Even the ordinary movements in bed were painful. Codeine several times a day was necessary for relief of distress. The onset was about four years ago. Pains started along the back of the neck and progressed so that eventually they were felt in the right thigh, in both knees and later in both ankles. In order to walk it became necessary to use canes, and he found it particularly difficult to ascend stairs. While motionless, either sitting or lying, he had no pain. The pain was particularly severe when he attempted to straighten his back.

In the past history were the usual diseases during childhood; good health as a young adult; removal of all teeth at 45; kidney trouble at 57, consisting of difficult and painful urination. For four years had intermittent attacks of so-called pleurisy unaccompanied by hemoptysis, cough or fever.

Physical examination revealed an emaciated man who complained of pain as the result of those voluntary movements necessary during the examination. The important features were entirely related to the skeletal system. There was a high dorsal semifixed kyphoscoliosis. When he lay on his back and the support was removed from under his head, he had to pull his head forward in order to raise it. Exquisite tenderness to moderate pressure was present over the lower ribs and tibiae. Passive movements of the limbs caused pain in the neighborhood of the

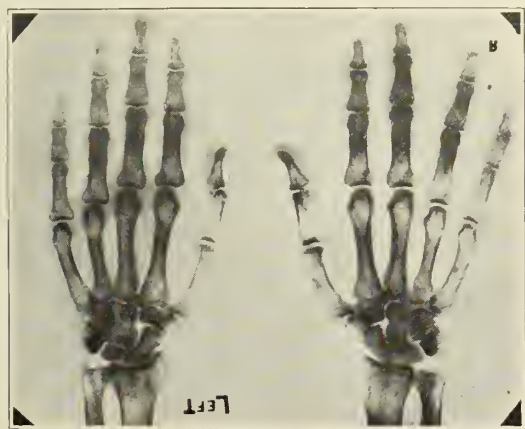


Fig. 3. Roentgenogram of hands and distal forearms before treatment.

knee joint. Except in the spine, there was neither deformity in nor crepitation of the joints.

The laboratory examination revealed a normal urine; phenolsulphonephthalein output was 35 per cent in the first hour, 20 per cent in the second hour; blood sugar .91 mgm.; nonprotein nitrogen 27.7 mgm.; blood calcium 9.7 mgm.; blood phosphorus 2.7 mgm.; red blood cells 3,900,000; hemoglobin 80 per cent (Sahli); white blood cells 11,000; Wassermann reaction negative.

To roentgen ray examination, the bones (hands, forearms, pelvis, femora, tibiae, skull and chest) were quite translucent. The cortex was thinned. The chest plate revealed a fracture of the eighth rib in the left midaxillary line. (Since the patient had no recollection of trauma, this must be considered a spontaneous fracture and probably accounted for the recent attacks of so-called pleurisy.) The roentgen ray diagnosis seemed to lie between senile osteoporosis and a disease producing decalcification.

Of importance is the dietary history. During the four years of this complaint, the patient had been treated for rheumatism which resulted in varied dietary restrictions. As a result, he has eaten no eggs, white bread, bacon, oranges or grapefruit for four years. During the last year he had the juice of two lemons daily. For three and one half years he had no milk except that which he used in his coffee. Meat had only been eaten one time a week. His diet had consisted mostly of vegetables of the so-called nonstarchy type. Of further significance was his occupation, that of hotel night clerk, which required working during the night and sleeping most of the day, permitting little exposure to the sun and little exercise.

It was the clinical impression that the condition was due to pathological changes in the bones and not to joint disease.

The patient was put on a general diet in which a quart of milk and daily cheese were obligatory. In addition, he had direct exposure to the sun. As medication, he received cod liver oil and calcium gluconate. After one month of this regimen there was not much change in his pain. He still required several doses of codeine during the 24 hours in order to maintain comfort. At the end of one month, disodium acid phosphate was added to the medication, as suggested by the metabolic study of an advanced case of osteomalacia in a young American woman by Gargill, Gilligan and Blumgart.⁹ They found that the maximum retention of calcium and phosphorus occurs when both are fed simultaneously. Very shortly after this addition the pains were markedly ameliorated. With the subsidence of pain, passive and later active exercise was added.

With the continuance of this regimen, improvement was rapid and by the end of eight months he was able to resume his occupation and walk long distances unassisted. Re-examination of the bones by roentgen ray after one year of treatment shows striking increase of the thickness of the cortex and excellent definition of bone structure.

Since the starting point of osteomalacia is an increased catabolism of bony structure, it has an earlier stage than that depicted by marked roentgen evidence of decalcification. Until such time as the roentgen ray or laboratory aids can identify early decalcification with certainty, the clinical recognition in its early stage will be dependent upon the

knowledge of its early symptoms combined with the information gained by analysis of the diet with particular reference to its calcium, phosphorus and vitamin A and D content. It seems not unlikely that many senescent patients with early osteomalacia are masquerading under the diagnosis of rheumatism, neuritis or arthritis.

SUMMARY

A 59-year-old male, confined to bed for one year on account of bone pains, and coinciding in all particulars with the symptom complex of hunger-osteomalacia, recovered completely on a high calcium and phosphorus intake combined with cod liver oil and direct exposure to sunlight.

1102 Missouri Bldg.

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ACUTE SILICOSIS

Earle M. Chapman, Boston (Journal A. M. A., April 23, 1932), reports three cases of silicosis in which respiratory symptoms appeared after eight, twenty-one and twenty-nine months of exposure to an alkaline dust of high silica content. The severity of the respiratory embarrassment is attested by the marked decrease in the vital capacity, which was lower in one case than that usually seen in uncomplicated cardiac failure. Right ventricular hypertrophy, described in the pathologic examinations, is probably explained by the increased resistance and loss of elasticity in the pulmonary vascular bed. This finding aided in the recognition of the disease in the living patient, in whom the diagnosis could not be made by the roentgenogram alone. No determination was made of the silica content of the dust or soap to which these men were exposed, but estimates of the silica content of the tissues in one case, done by the method of King, suggest that the reaction in the lungs is not a direct, quantitative one and very likely the rapid development of fibrosis results from the accelerated formation of silica hydrosol in the presence of the alkaline soap dust. Ordinarily this reaction progresses slowly in the faintly alkaline tissue fluids and may be so prolonged that symptoms do not appear until years after one has left a hazardous industry.

CLINICAL MANIFESTATIONS OF DISEASES OF THE BREAST *

JABEZ N. JACKSON, M.D.

KANSAS CITY, MO.

According to the published statistics cancer today is on the increase. Cancer in women is found probably more frequently in the breast than in any other organ except the uterus, and the result is that cancer of the breast and what to do before it becomes cancer is an important problem to the medical man.

It has been my fortune to have had considerable experience not only in operating on cancer of the breast, but in observing cases that have come to me after operation elsewhere and in watching operations in other clinics. As a result of this experience I am satisfied that our results in surgery of the breast today are far below those which should be obtained, and it is my purpose this afternoon to discuss some of the things which are responsible for these imperfect results.

In the first place, probably the greatest factor in holding down the results in cancer of the breast is the fact that for many years women came too late, coming to us after the diagnosis was so plain that anybody could make it. The argument I want to present to you first is this: that 95 per cent of cases presenting themselves to the surgeon or medical man with tumor of the breast have been discovered, say, while the woman was making her toilet, without symptoms of any type, and in many instances the woman herself gives no attention to the seriousness of the possibility of disease and does not even consult a doctor. When she does consult a doctor at that late date the responsibility does not rest upon his shoulders; but if a patient has been wise enough when she first discovers the lump in her breast to come to you or to me, on our shoulders rests largely the responsibility of that woman's life.

We do not know a great deal about cancer, but we do know some things that should never be forgotten. The first is, that every cancer is at one time a purely local disease and if every cancer were operated on when it is a purely local disease the result would in most instances be the saving of the patient's life. Hence, the importance of our considering in examining a simple tumor of the breast what are the possibilities. The physical signs of cancer of the breast are never present in the early stage of the disease and therefore are worthless to us

in determining our procedure. Probably the first significant sign of cancer of the breast by which we can make a physical diagnosis is the absorption of overlying fat and the fixation of the growth. Some cases can be diagnosed promptly without touching the patient. You will find an indentation of the breast, as if a finger had been stuck in and made a pitting. That sign is sufficient to make a diagnosis. The great pioneer in breast surgery, Halstead, said years ago that the faintest suspicion of a tuck was sufficient to make a diagnosis of cancer. I remember years ago a woman came to me with an imperceptible growth, a flat growth, but on palpation of the breast and as the skin was picked up and moved around there was fixation like a tuck taken in the flesh, and on that we made a diagnosis of cancer. The doctor who waits until he has signs of skin fixation and absorption of fat and the presence of actual metastasis, has lost the opportune time where the possibility of good results obtain. I would therefore like to argue to the medical man that the time to attack breast tumor is before clinical diagnosis is possible. When we look back to what has been shown by our past experience—and that is one of the greatest factors in making a diagnosis—we find that 80 per cent of all tumors of the breast were malignant to begin with; as the woman approaches fifty, perhaps 85 per cent are malignant. With that as a background, it is inexcusable to take chances against probabilities by saying, "We will wait," and the doctor who says "We will await developments," and then probably adds greater danger by advising the patient to rub on some kind of ointment the manipulation of which stimulates the tumor and renders it no longer a local disease, is assuming a tremendous responsibility. There is no way of getting rid of any lump in the breast by medicaments; surgery is the only way of removing the tumor. Suppose one happens to be on the lucky side, where the tumor is purely a simple growth, yet we know that simple growths, if left alone, will become malignant in 50 per cent of cases; suppose this woman is in the 20 per cent that are not malignant; if you remove the growth you save ten of these women from developing cancer and thus save their lives.

You say, "Why do you not wait until you make a diagnosis? What effect will it have on your surgery?" You notice out here in the hall a number of statistical charts, and the most striking thing is the difference in statistical results between those cases operated on before the axillary glands were involved, and those cases that waited until diagnosis could be made

* Read in the Symposium on Carcinoma of the Breast at the 75th Annual Meeting of the Missouri State Medical Association, Jefferson City, May 23-26, 1932.

by the condition of the axillary glands. In other words, while there is a difference in statistical results they coincide so closely that we will find 70 to 80 per cent of cases of breast cancer operated on before axillary involvement is manifest remain well for from seven to ten years; whereas, those patients upon whom operation has been deferred until the axilla is involved show only 15 to 20 per cent cures. Obviously, therefore, when we are dealing with cancer of the breast it is not a simple matter of infection, but it is striking at the vital roots of the individual and it becomes our responsibility to save, not only suffering but actually save life. If we will pursue the course of removing every tumor of the breast by operation our results will be much better than in the past. That does not necessarily mean that in the case of every simple lump in the breast the breast should be sacrificed; but the lump should be removed. The experienced surgeon will be able to tell in 90 per cent of cases what he is dealing with by the gross sections made, and the man who is doing breast surgery should not be satisfied to depend on his own resources; I want to say frankly that no man should undertake breast surgery without a qualified pathologist behind him.

In removing the tumor we do not want to cut out simply the tumor, but cut widely. My rule is, after excising the tumor, to pack the wound with Harrington's solution until I decide what I am going to do. In five minutes I can have the pathological report on the exact nature of the tumor. Some will say that pathological reports are not infallible; they are not, but the course I pursue in my practice is this: When I have removed a primary growth from the breast and it seems to be malignant but the pathologist tells me it is benign, I pay no attention to the pathologist's opinion; I treat it as malignant. If, on the other hand, the pathologist tells me the growth is malignant when it has appeared to me benign, I pay no attention to my own opinion. In other words, if there is any reason for doubt every tumor in a woman's breast should be treated as cancer; if the surgeon happens to be operating where he has no facilities for pathological diagnosis he should take it for granted that every case is cancer and do a radical operation. Some of the most disastrous results we have found come from operating upon a tumor of the breast and assuming it to be benign when it was malignant, taking out the tumor, sending it to a distant laboratory, and at the end of two or three days getting back a report that it is a malignant growth. Some have said that in no case in which a secondary operation has been

done at a remote time after the removal of the primary growth have there been satisfactory results. I would not say that is inevitably the rule, but it has been almost so. If you open into the neighborhood of the cancer you do not know its limits and you may perhaps cut into the lymphatics already involved, thereby converting a case which might have been hopeful into a case which is now hopeless.

So, at this time there are two or three things I want to stress. First, that every tumor of the breast should be removed as soon as discovered, not waiting for clinical or other signs by which to make a positive diagnosis; and I am glad to say that nowadays we are having many more patients come to us at that stage. In the first ten years of my surgical career I do not think I operated upon any case of cancer of the breast where there was any doubt as to the clinical diagnosis when it came to me. Today, probably 50 per cent of the women coming into my office present nothing but a lump; it shows no sign of marked induration, is freely movable, no sign of fixation, none of the earmarks of malignancy. I recall one woman who came to me, she was the wife of a wealthy man in Kansas City, who had a tumor a little larger than a marble in the outer quadrant of the left breast, freely movable, no fixation. I said, "If I were to make a diagnosis I would say this is a benign tumor, but I do not think anyone is qualified to make that sort of diagnosis, and the only thing to do is to take it out." That small tumor proved to be highly malignant cancer; when I got into the arm I found the axilla involved and that patient was dead in a year from general metastasis. So it does not make any difference how innocent a growth may seem, you have no right to pronounce it benign until you know, and you have no justification for taking out a tumor without adequate knowledge of what it is and saying it is benign. I remember a patient who came to my office who had had a tumor removed in a clinic in the State on a diagnosis of benign growth. She came with a metastasis in the chest and every place else. It had not been benign and an inadequate operation had been done. So, the first problem in every tumor of the breast is that it should be removed as soon as it is discovered, and when it is absolutely proved pathologically the operation should be adequate for the condition.

Another thing we find is that in many instances surgeons, through inexperience or through fear, are doing inadequate operations for cancer of the breast. The operation for cancer of the breast, properly done, is the most extensive operation in surgery to look at; but

it is on the outside and there is no excuse for any man who fails to follow cancer of the breast as far as it is physically and anatomically possible. Halstead, years ago, calling attention to the fact that one of the first clinical signs of cancer is a tendency to skin invasion, insisted on the removal of a large area of skin; that is still the correct procedure. When the cancer is not confined to the nodule the entire breast should be removed, and since the cancer route is by the lymphatics it is our duty to follow the lymphatics as far as possible. There is just one limitation. When a patient comes to me with the presence of a supraclavicular enlargement I do not operate. I still think there is good chance for cure as long as merely the primary glands are involved. Where the cancer has extended to the secondary glands it is hopeless. The results where you find metastasis are one half of those found earlier. We find 30 per cent of our patients are alive seven years after operation in the presence of actual axillary involvement.

The operation should clean the axilla absolutely. Our English friends have always insisted on a wide initial extirpation, not so much of skin as of fascia, and in our operative procedure we do the same thing. We follow the fascia back on the chest as far as we can go.

Another point I want to call to your attention is that surgeons often do too much mauling and squeezing of the breast during operative procedure; thus a cancer which may have been local has been squeezed out into the lymphatics and disseminated at the time of operation.

The final factor of value is to consider every case of cancer of the breast as you would an infected wound. After we have laid back the flaps we cover them with heavy bath towels wrung out of hot water. We make the preliminary dissection and when we get through with that we irrigate, with the idea that possibly some stray cells may be located some place which if closed up would produce local recurrence. In the statistics of the Johns Hopkins Clinics published in the *Annals of Surgery* a month ago—and I cite Johns Hopkins because I take off my hat to Halstead as a pioneer in surgery—and yet they showed 15 to 35 per cent of local recurrence. In our own series we had only 5 recurrences in 130 cases. I attribute that largely to the fact that in many instances we defeated this factor of recurrence by preventing contamination at the time. If you leave a cancer cell in the tissue it will grow.

We are not much interested in the subject of physical diagnosis and physical signs in cancer of the breast, because I believe every lump

in the breast should be removed before it is possible for the development of signs and symptoms from which diagnosis can be made. These cases should be operated on before that time.

1002 Argyle Building.

THE ROENTGEN RAY EXAMINATION OF THE BREAST *

IRA H. LOCKWOOD, M.D.

AND

WENDELL STEWART, M.D.

KANSAS CITY, MO.

The roentgen ray examination of the mammary gland affords a method of diagnosis the accuracy of which is exceeded only by the microscopical examination of excised breast tissue. Roentgenograms can establish the presence or absence of a mass, define its mammary and axillary extensions and usually its character.¹ Cancer can often be recognized before it becomes clinically apparent and the nature of benign tumors can be predicted. From the roentgen study one may select the operation of choice and reduce to a minimum the need for exploration.

The mammary gland lends itself readily to roentgen study. Projection of the gland may be made with a minimum of distortion and with very little superimposition of other structures. For the examination the patient is placed obliquely on the radiographic table. The head lies on the arm corresponding to the side being examined, while holding the other breast out of the way with the free hand. All clothing over the breasts is removed. The central ray is directed along an imaginary line extending from the sternal to the axillary base of the gland. The Potter-Bucky diaphragm and double intensifying screens are used. The factors are 60-70 K. V. with an exposure of from 3 to 6 seconds. Both breasts are taken routinely. The negative should include the axilla. A sagging breast may be supported by a pad of cotton without interference with the radiographic result. Any palpable breast can be projected on a negative.

On a properly executed roentgenogram of the breast there is a smooth narrow area marking the separation of the breast from the pectoral muscles. The breast structures appear as a pyramid with the apex at the nipple. Fine striations are seen passing from the broad base of the gland converging to a narrowing band that extends to the areola. The nipple with the skin margin in profile should

* Read in the Symposium on Carcinoma of the Breast at the 75th Annual Meeting of the Missouri State Medical Association, Jefferson City, May 23-26, 1932.



Fig. 1. Case 1. Normal breasts.

appear. The mass of the gland appears as irregular soft mottled areas with regions that are relatively nonopaque representing the fat tissue of the stroma.

REPORT OF CASE

Case 1. Miss M., aged 20. Normal breasts. Menstrual history normal. No pregnancies. No abnormality on physical examination of breasts. Roentgen examination: The muscle planes are smooth, the striations numerous and without distortion. The mass of the gland presents a regular mottled appearance that is characteristic of the normal breast.

The roentgen appearance of the developmental, puberal, menstrual and involutional changes in the mammary gland have been described in detail elsewhere.²

BENIGN LESIONS

Chronic cystic mastitis or, more accurately, the cystiphorous desquamative epithelial hyperplasia of Cheatle,³ is to be distinguished from the normal physiological hypertrophy (mazo-plasia) that occurs after each ovulation, during pregnancy, lactation and at the menopause. A gland, the site of chronic cystic mastitis, appears to fill all the available space to the derma leaving only small islands of nonopaque stroma. The striations are numerous and appear to converge to form a dense band beneath the nipple. Scattered throughout each breast are many fine clear spaces measuring one to four millimeters in diameter representing small cystic areas. The condition is usually bilateral. Cysts of the blue-domed variety appear as relatively clear areas in the parenchyma, usually with a poorly defined periphery.

A mass in the breast during the cancer age

in the presence of chronic cystic mastitis presents a difficult clinical problem.⁴ The roentgen study will differentiate a cyst from a solid tumor in any part of the breast. Transillumination is not possible in small compact glands, nor is it always possible to place the lesion between the light and the examiner's eye.⁵

REPORT OF CASE

Case 2. Mrs. H., aged 31. Patient has been aware of a somewhat painful mass in the left breast for three weeks. Menstrual history normal. No pregnancies. Physical examination: A smooth walnut-sized mass was felt above the left nipple, clinically considered to be a cyst. Roentgen examination: Both breasts present the mottled appearance of so-called chronic cystic mastitis. The muscle planes are smooth and regular with preservation of the normal architecture of the breast. Beneath the left nipple there is a large relatively clear area (marked with arrows in figure 2) characteristic of a cyst. It appears as if the parenchyma in this region had been none too skillfully erased. Scattered throughout each breast are multiple fine clear areas representing smaller cysts.

Solid benign tumors appear on the roentgenogram as circumscribed opaque areas often multiple with a dense periphery but with no evidence of invasion of adjacent tissue. There may be distortion but no interruption of the striations. There is no axillary extension. Calcification may be present in those of long duration.

REPORT OF CASE

Case 3. Mrs. P., aged 40. A slowly growing nodule has been present in the left breast for fifteen years. Menstrual history normal. Two children, ages fourteen and eight. Physical examination shows a large irregular mass in the left breast, tender and considered clinically chronic cystic mastitis. Roentgen examination: Neither breast shows any of the mottled appearance typical of chronic cystic mastitis. In the left breast there are well defined areas with

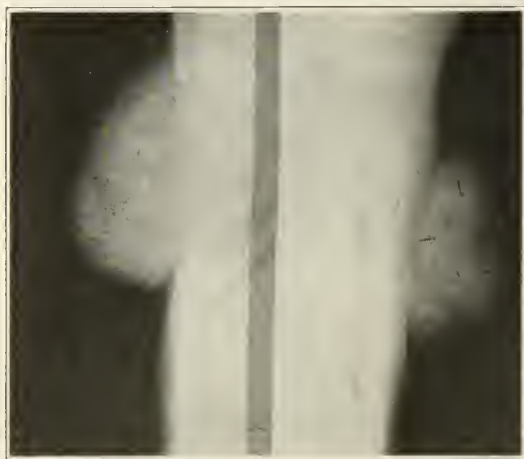


Fig. 2. Case 2. Blue-domed cyst, left breast, in the presence of chronic cystic mastitis. Histological confirmation.

a dense periphery and no evidence of malignant extension. There is calcification of each. Roentgen findings are those of fibro-adenomata of the left breast.

CANCER

Breast malignancy usually appears in the age group forty to fifty or later when the normal involutional changes have left the gland largely fat in which the cancerous mass stands out in bold relief. Where the involutional atrophy has not occurred an increase in kilovoltage (average 10) will obliterate a major portion of the glandular structure and allow the dense cancerous mass to be apparent.

Cancer of the breast appears as an irregular neoplasm with varying degrees of density. The periphery may be more compact than the mass giving a false sense of encapsulation due to compression of the surrounding structures by proliferating tissue. At one or more regions, or at the entire periphery of the mass, one may observe fine feathery projections into the adjacent tissue indicative of malignant invasion. Extension into the axilla with lymph node enlargement can be demonstrated.⁵ There is often invasion of the pectoral muscles with regional loss of the normal smooth muscle planes. If the tumor is near the nipple there may be a broad thickened band extending to the areola representing the "tumor bridge." Cancer causes interruption of the striations of the breast. Between the mass and the skin accentuation of the striations may be interpreted as malignant extensions along the ligaments of Cooper.

The appearance of an advanced cancer of the breast on the roentgenogram is so striking that it can hardly be mistaken for any other lesion.



Fig. 3. Case 3. Fibro-adenoma of the left breast. Histological confirmation.



Fig. 4. Case 4. Advanced cancer of the right breast. Pathologic study reveals cancer cyst with a very malignant solid tumor below.

REPORT OF CASE

Case 4. Miss M., aged 29. Two years ago during the course of a general physical examination the patient's attention was called to a symptomless lump in the upper portion of the right breast. Since then the patient has been watching this lump carefully. About two months ago it began to increase rapidly in size without other symptoms. Menstrual history normal. No pregnancies. Physical examination reveals a nontender mass about the size of an orange in the upper outer quadrant of the right breast. The upper portion of the mass is soft, the lower firm and irregular. The skin overlying the mass is red and warm. There is a single palpable marble-sized axillary node.

Roentgen examination: There is no evidence of chronic cystic mastitis. In the upper portion of the right breast there is a smooth dense area that has the appearance of a cyst in the absence of chronic cystic mastitis. Below this there is a dense infiltrating tumor with accentuation of the striations between it and the skin with peripheral feathery extensions, interruption of the striations and regional obliteration of the muscle planes. The shadow of an axillary lymph node is apparent. The roentgen findings are those of a solid malignant tumor of the right breast with a cancer cyst.

Cancer of the breast appears clinically as two preëminent types, medullary and scirrhus.⁶ These constitute about 75 per cent of all mammary carcinoma.⁷ The roentgen examination will often differentiate the predominating type. Medullary carcinoma appears as a bulky tumor often with as much compression as infiltration due to the rapid growth. There is interruption of the striations and glands in the axilla. Routine negatives of the chest, lumbar spine and pelvis may disclose early, clinically unsuspected, metastasis.

REPORT OF CASE

Case 5. Mrs. M., aged 69. Patient has been aware of a slowly growing tumor in the right breast for six months. Two pregnancies. Menopause twenty



Fig. 5. Case 5. Inoperable medullary cancer of the right breast. Death in five months.

years ago. Physical examination shows a large firm mass beneath the right nipple with retraction and fixation to the skin. Palpable axillary nodes are present as well as supraclavicular metastasis. Considered to be inoperable carcinoma.

Roentgen examination: Involutional atrophy permits the infiltrating bulky tumor mass in the right breast to stand out unusually clearly. There is accentuation of the striations near the tumor with a wide tumor bridge leading to the nipple. Axillary extension is demonstrated.

Scirrhus carcinoma of the breast usually presents a smaller mass. There may be no increase in the size of the gland but there is a greater tendency to dense infiltration as a result of the slower growth. Malignant extension may be seen as in the medullary type.

Small regions of fibrosis in the breast may simulate scirrhus carcinoma. Fibrosis, however, is usually bilateral and rather extensive except for the reaction following a localized injury to the breast. Soft opaque areas representing fibrosis may extend into the axilla and large lymphatic deposits may be seen. One cannot make an absolute differentiation between inflammatory and malignant nodes on the roentgenograms but the presence of cancer makes for a homogeneous, dense lymph node, while the inflammatory node is but faintly outlined, irregular and mottled in appearance.

REPORT OF CASE

Case 6. Mrs. R., aged 55. A symptomless lump was found in the left breast one year ago. It has slowly increased in size. Menopause ten years ago. No pregnancies.

Physical examination: A 3 cm. mass was felt in the upper, inner quadrant deep in the substance of the left breast clinically considered to be chronic cystic mastitis.

Roentgen examination: The involutional atrophy

after the menopause permits the mass to stand out in bold relief. There are fine feathery projections extending from the mass (marked with arrows in figure 6) suggestive of scirrhus carcinoma. The puckering incident to the growth of this type of tumor is well demonstrated.

Cancer occurs in the remaining breast in about 10 per cent of women who survive the five year period.⁸ It may appear as multiple nodules each with the characteristics of cancer. Periodical roentgen examination will detect an early malignant mass.

REPORT OF CASE

Case 7. Mrs. S., aged 42. Radical amputation of the right breast for carcinoma three years ago without local recurrence. Two weeks ago patient noticed a somewhat painful mass in the left breast.

Physical examination: Tender mass in the upper pole of the left breast that felt well circumscribed and was clinically considered to be chronic cystic mastitis.

Roentgen examination: Right breast absent with no evident axillary masses. The left breast does not appear to be the site of chronic cystic mastitis. In the upper portion there are several small masses with feathered periphery and extension toward the axilla. The roentgen findings are those of multiple areas of carcinoma.

The educational propaganda of the American Society for the Control of Cancer has produced results.⁹ An increasing number of women are coming to the physician with a history of a lump in the breast of short duration in which the palpatory evidence may not be conclusive. These individuals present early and border line lesions in which the roentgen examination may be decisive. However, in doubtful cases, the final test of cancer still remains the examination of tissue under the microscope.



Fig. 6. Case 6. Scirrhus cancer of the breast clinically considered to be mastitis. Histological confirmation of roentgen diagnosis.



Fig. 7. Case 7. Cancer in the remaining breast, clinically considered to be mastitis. Histological confirmation of roentgen diagnosis.

CONCLUSIONS

1. The technical considerations in the roentgen study of the mammary gland have been discussed.
2. Chronic cystic mastitis presents a characteristic appearance on the roentgenogram. The nature of benign tumors can be predicted.
3. Cancer of the breast presents an unique appearance as demonstrated by the roentgen examination often before the disease is clinically apparent.
4. We believe that the roentgen examination will bring more women to operation at a stage when surgery can offer more than palliation in cancer of the breast.

800 Argyle Building.
Missouri Baptist Hospital.

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DISCUSSION

DR. FRANCIS L. REDER, St. Louis: When you are confronted with malignancy you are face to face, even in this day of enlightenment made possible by scientific research, with a pathological condition that is still quite obscure. When you return home you

certainly will take with you from these splendid addresses impressions that will remain with you for the rest of your medical life. You have listened to admonitions and advice that are of the utmost importance. When a patient consults you with a "lump" in her breast, she has most likely culled sufficient information from newspaper and magazine articles, lectures and radio talks, and also talks with friends, that she must regard this "lump," which she accidentally discovered as suspicious. Such a patient when she consults her physician, must be subjected to a thorough examination that a diagnosis may be reached without delay. A superficial examination of such a patient is almost a sin on the part of the doctor. Be he busy or not, he cannot offer any excuse for not giving the necessary time for the examination, nor instituting the proper measures to clear up the existing condition. It was a surprise to me, and I think to some of you, to find a breast that had been examined so vigorously by the physician that the blood vessels had been injured causing discoloration in the skin. The physician who makes that kind of an examination had better refrain from any further examinations.

I was particularly gratified not so long ago when a patient came to me with simply a little "hemstitch" in her breast, a very valuable point mentioned by Dr. Jackson. The woman was in excellent health, and when she felt a lump in her breast she asked a nurse, who was a friend, what it might mean. The nurse actually made the diagnosis for her. It proved to be a carcinoma. If the nurse had been ignorant, and had not possessed information about "lumps" in the breast and had not given this woman intelligent advice she would probably have regarded the matter as an insignificant affair.

I wish I had the statistics of my breast operations to tell you how successful I have been in my radical operations. I can, however state, and assure it is most gratifying, that a large number of patients with cancer breasts who have consulted me and accepted operations have lived from two to five years. Some of these cancer cases have lived 8 years without recurrence. I cannot speak with any assurance of postoperative irradiation, but the trend of opinion of those in a position to speak, leads one to believe that the life of a patient in many instances can be prolonged by the instituting of a proper roentgen ray technic.

May I speak of another phase of breast cancer, it is of some interest because it concerns systemic resistance. I have had two patients who are perfectly healthy women in their thirties, each with a "lump" in her breast, in size as large as a small hazelnut. These "lumps" did not present any clinical evidence of malignancy. We know that about 80 per cent of such cases must be regarded as serious. The lump in each case was removed under local anesthesia. Microscopic examination revealed a carcinomatous lesion. When these women were informed of the nature of these "lumps" and operations advised both refused. It is now three years since the malignant nodules were removed. They are still in splendid health. I have asked them to come and let me make an examination once about every four months; so far there is no evidence of any recurrence.

It is a satisfaction to me that a subject of so serious a nature has been incorporated in this program and you must feel grateful to the speakers to whom you have listened. It is a subject that cannot be erased from your mind, it is too serious.

DR. J. G. MOORE, Mexico: I know it is no use to say anything to this company about Dr. Jackson's talk. It would be presumptuous for me to criticize him, and you can find few men who would dispute any statement he makes about cancer of the breast. It has been a gratification to me as well as to Dr. Jackson to find him and Dr. Lee in such thorough accord on the question of cancer of the breast. Of course, my personal experience in this work has been rather limited, and I have sometimes regretted what finally turned out to be an inefficient operation. I have never regretted an extensive removal of the lymphatics and clearing out the spaces round about a cancer of the breast. I have no record of cases with me and the number has been rather limited because my experience has never been very extensive; but the principles these gentlemen have brought you today are, so far as our knowledge goes, the principles that must guide us if we are successful in handling this most threatening disease, because a lump in the breast is a threat against a woman's life until it is removed or proved to be harmless.

Nowadays, every well appointed hospital has a competent pathologist who can make immediate examination of these tissues, and while we all hope for some easier, safer, pleasanter method of treating cancer than by radical operation, at the present time the path marked out by these gentlemen is the only one we can conscientiously follow. I want to thank them for what they have said and to agree thoroughly with every paper in the symposium.

DR. JOSEPH GRINDON, St. Louis: I am not a surgeon, but there is one aspect of the subject that I would like to mention which appeals to me as a dermatologist. That is Paget's disease. We often hear that Paget's disease begins with eczema or something that looks like eczema, but I want to say that it does not look like eczema to us dermatologists. When I say that, I am not trying to split hairs as between eczema and dermatitis. I mean that there is something about the appearance of early Paget's which is characteristic and which should at least awaken one's apprehension. If I rightly understood Dr. Lee, he spoke of Paget's disease as a precancerous condition; but it is cancer from the first and I think it would be well for practitioners to think of it by the better name of malignant mamillitis.

Not only is it foolish to attempt to do anything with this condition by lotions and salves, but I doubt very much whether treatment by roentgen ray or radium is much better. I have long since abandoned any attempt to treat these cases in that way but have referred any such case, any chronic unilateral mamillitis in a woman past the lactating age, to a competent surgeon. She generally is past that period. As was said this afternoon, the woman who has never lactated and develops a sore nipple which continues more than a few days, in all probability has a malignant mamillitis. I would like briefly to relate such a case.

About three years ago a lady about 60 years of age, a nullipara, the wife of a physician, consulted me for a sore upon the left nipple. I asked her why her husband had not sent her to me sooner and found to my surprise that he did not know there was anything the matter with his wife. I felt so sure as to the condition that I referred her at once to her choice of a surgeon, Dr. Harvey Mudd, who did a complete radical operation, going well up into the axilla and clearing out everything. The wound healed nicely and she dropped in to see me at short

intervals for a long time. Everything looked well. After about eighteen months she came in one day and over the sternum, about an inch and a half away from the line of the scar, were two little brown lesions barely projecting above the surrounding surface, each no more than one millimeter in diameter. The color of the spots was most suspicious and I at once referred her again to Dr. Mudd. After brief consultation he decided to excise the lesions. He took out a piece of skin about the size of my palm, going down to the sternum. The wound healed nicely. A section of these nodules showed the presence of carcinoma. I met the husband on the street a month or two later and inquired about his wife. She was in a bad way, had pleurisy, had been tapped a number of times. I am not an authority on internal medicine, but I believe that in a patient past middle life, with a subacute pleurisy that requires a number ofappings, the chances of malignancy are very strong. She was tapped again and again, and died. Before death the roentgen ray showed extensive carcinomatosis of the pleura.

DR. JABEZ N. JACKSON, closing: I have very little to add in closing except to congratulate the Association for the opportunity we have had this afternoon to hear the man whom I regard as the highest authority on cancer, particularly cancer of the breast; one of the few men who, whatever he says, I believe. We know what Dr. Lee says is the truth.

One of the things that impresses me is, how far we have come within a generation in improvement of our results in cancer of the breast. I remember in 1907 I attended a meeting of the American Surgical Association at Philadelphia, which meeting was devoted to end-results in cancer of the breast, with reports from the largest clinics in the country, and when we compare the results reported there with those of Dr. Lee's experience and my own at this time we find we have come a considerable distance in getting a high percentage of cures. I think this is due to two things. Perhaps first, is educating women to come earlier. One instance I remember where an educated school teacher discovered a lump in her breast on Friday, consulted me on Saturday, went to the hospital on Sunday, and the operation was done on Monday.

The next thing I think is, that we are doing much more extensive surgery than we used to do; this is made possible largely because patients nowadays can undergo radical operations without physical ailments thereafter. Dr. Lee referred to care in operating on the arm. If we are getting our patients earlier we must make our surgery so attractive that they will not be repelled. With all due deference to what our friend Halstead has done in Baltimore, I think his insistence upon skin grafting has been responsible for driving many women to the grave, because a woman who has seen another woman after operation with extensive skin grafting will hesitate a long time before submitting herself to the same procedure.

About a month ago Dean Lewis and Rinehart published a report from Johns Hopkins in which they argued for the superiority of the skin grafting method. Years ago I described my flap operation. Bloodgood did not believe in the plastic operation I did on the breast, and thought there was no argument about it. Two years afterwards I went to the American Medical Association and was told I could bring some cases. Bloodgood saw them and said, "Well, I have had such good results with the skin graft operation that I cannot help but believe there is some good in it." If you will read the statistics

of Johns Hopkins you will find there is no virtue in healing under skin graft because in seven years they have only 7 per cent good results while ours is 47 per cent. I believe if we can do a correct and radical operation we can accomplish wonders.

Finally, I want to call your attention to a small point, but a practical one. If you try to fasten the arm to the side you may sometimes have a patient with long disability; she will have a hard time to get the arm up. I put the patient in bed with the arm above the head, oblige her to use the arm in twenty-four hours, and we expect her in two weeks to use the hand. There is no impairment of the function of the arm in spite of the extensive operation.

DR. IRA H. LOCKWOOD, closing: We have listened to the result of some excellent work from both Dr. Jackson and Dr. Lee. Our work has not been concerned so much with the outstanding case of carcinoma of the breast as it has with the question of being able to make an early diagnosis in cancer of the breast.

Unfortunately, the usual case comes to us with the history that she saw her doctor one or two years previously. He found the lump in her breast. It was not removed but at the present time she has a definite, outstanding carcinoma of the breast, perhaps with chest involvement and bone lesions.

Three months ago a patient consulted Dr. Jackson, who said that seventeen days previously an exploratory operation had been done on her breast. A piece of tissue was removed, examined and pronounced benign. The roentgen examination of this breast shows a distinct and extensive medullary carcinoma.

The laity has been educated to be examined for any lump in the breast and it seems to me the problem we are facing is the question of early diagnosis of carcinoma of the breast. The roentgen examination will, in a high percentage of cases, definitely determine whether the lump is benign or malignant; if malignant it will define the extension and involvement and be an aid in guiding the therapeutic method.

Dr. Lee spoke of preoperative and postoperative irradiation. The value of this type of treatment is still an unsettled question. Some investigators believe that postoperative irradiation prevents or delays recurrence; others believe it has no effect upon the local recurrence of the disease. It is quite possible that success depends upon the dosage employed. In the strictly operable cases I can see no reason for preoperative irradiation. There is no question but that the cancer cell is very resistant and if it is so resistant irradiation will affect the normal cells to a certain extent. There is, however, a definite field for irradiation in the inoperable case, using both radium and the roentgen ray. We are anxiously awaiting the ultimate opinion concerning interstitial irradiation in inoperable carcinoma of the breast.

"The complete physical examination of the child is a necessary step in preventive medicine; it is locking the garage before the automobile is stolen. Its aim is not only to prolong life but to preserve health, happiness and usefulness. To be of greatest value, it must be begun early in life and conducted regularly at least once a year depending on the condition of the individual child." In "Physical Examinations for the Healthy Child," in *Hygeia*, Dr. Esther I. McEachen upholds a worthwhile health project.

RESPIRATORY DISEASES THAT MIMIC APPENDICITIS

THEIR IMPORTANCE TO THE SURGEON *†

PAUL S. LOWENSTEIN, M.D.

ST. LOUIS

The attention of the profession has been repeatedly directed to the high mortality which still attends appendicitis. A critical survey of the factors responsible is not within the province of this paper. I do however wish to indicate various affections of the respiratory system many of whose symptoms are at some time so preponderantly abdominal in type as to mislead the unwary into a presumptive diagnosis of appendiceal disease. Matas⁹ states that despite the improvement in the statistics of institutions regarding postoperative complications the reports, particularly in reference to postoperative pulmonary involvements, are deficient and defective for statistical purposes. This is due in part to failure in most hospitals to record the minor complications in nonfatal cases and the lack of postmortem evidence. It would be of much interest to know the number of postoperative pulmonary derangements that were in reality undiscovered respiratory affections whose abdominal symptoms led the surgeon to perform an unwarranted laparotomy.

I realize of course that much of what I have to say has been asserted previously and that the entire subject may be construed as an invasion of the field of the internist. But in all probability the majority of appendectomies are performed by the man in general practice and in the last analysis the responsibility for the diagnosis as well as the successful completion of the operation rests upon the operator.

INTRATHORACIC DISEASES

The nervous mechanism by which intrathoracic diseases at times transmit impulses interpreted as of abdominal origin has been quite clearly depicted by Starry,¹³ Allen¹ and others and may be briefly referred to here. Although the pleura covering the central portion and crurae of the diaphragm is innervated by the phrenic nerve, which arises from the cervical segment of the spinal cord, the pleura covering the costal portion receives its supply from the lower six thoracic nerves while the remainder of the pleura is served by the upper six thoracics. Sensory impulses from the last two groups enter the thoracic segments of the cord from which arise sympathetic fibers form-

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† From the Departments of Surgery, St. Louis University and the Jewish Hospital.

ing "the chain to the celiac ganglia which supply the viscera downward to the cecum." (Allen.)

Thus, particularly in children and young adults, the symptoms of inflammatory changes in the lungs and pleurae are often first referred to the abdomen. While pneumonia of any lobe of either lung may in this manner produce abdominal symptoms, infection in the right lower lobe is by far the commonest cause. It is highly probable that only when the pneumonic process reaches the periphery of the lobe, there involving the pleura, that the referred pains are first instituted. But Cheney⁵ feels that unfortunately pain is most often referred to the abdomen in the deep seated consolidations with resulting diaphragmatic pleurisy, in which the typical signs of pneumonia are not found. Similarly, attacks of pleurisy without an antedating pneumonia or, according to Pottenger,¹¹ the tearing or stretching of adhesions incident to a pneumothorax, spontaneous or induced, may initiate a severe attack of abdominal pain. So too, in severe pulmonary hemorrhage the blood may trickle down into the finer bronchi at the base of the lung and settling over the pleura cause an inflammatory reaction with pain referred over the upper abdomen and at times the production of spasm of the upper abdominal muscles.

We may reiterate, then, that there are certain symptoms and signs typically present in acute appendicitis that may be caused by pathologic processes in the lungs or pleura. These are abdominal pain and tenderness, muscular rigidity, nausea and vomiting, fever and leukocytosis.

In a preceding paragraph we alluded to the mechanism by which the pain in pleuropulmonary infections may be referred to the abdomen. An occasionally helpful maneuver in differentiating the two is to roll the patient over on his left side. In acute appendicitis this frequently accentuates the distress while in pneumonia it may cause the patient to cough. Rigidity of the abdominal muscles in pneumonia is apt to yield to continued deep palpation, and the tenderness in the right lower quadrant while suggestive is rarely as definite as in acute appendicitis. Sloan¹² even advises in doubtful instances giving the patient a few whiffs of gas or ether to determine the muscle spasm, being in readiness, however, to continue with an operation if needed. I have never found this necessary as a diagnostic procedure in such cases and would certainly not recommend the administration of an inhalation anesthetic in the presence of a possible respiratory infection. Although nausea and vomiting more commonly initiate attacks of appendicitis

they are occasionally found in pneumonia, while in the latter disease a chill at the onset and labial herpes may be absent, as Blake² has pointed out.

The temperature in acute appendicitis is usually not as high as in pneumonia. Thus, out of 139 cases histologically proved acute appendicitis Neal and Robnett¹⁰ found the temperature to be below 100 F. in 89 cases, of which number in 33 instances it was normal or below. Moreover, in pneumonia the respiratory rate is apt to be relatively high in relation to the pulse while in appendicitis the reverse is true. The leukocyte count in the average case of appendicitis is 12,000 to 15,000, although it may be normal in the case of virulent infection or poor resistance of the patient. With abscess or acute general peritonitis it may be 20,000 or higher, but it is unusual to have so high a count in the earlier stages of the attack. At times one may with advantage utilize the relation of the leukocyte count to the neutrophil percentage, as suggested by Neal and Robnett. In pneumonia, on the other hand, the leukocytosis is early much higher (usually above 20,000).

Cheney⁵ summarizes the several diagnostic points which aid in the differentiation of pneumonia from acute appendicitis:

1. The onset in pneumonia is commonly with a chill followed by high fever. (These are unusual in acute appendicitis.)

2. Leukocytosis is found early much higher.

3. Signs in the right lower quadrant may be suggestive but are rarely so definite as in acute appendicitis, while at the right base of the lung "impaired movement, decreased resonance, bronchial breathing, fine crackling rales, ought to prove that this is the real site of the disease."

Unfortunately in the deep seated consolidations the typical signs of pneumonia are not found. But the onset should make one cautious and if we delay, "ultimately the usual characteristic signs at the pulmonary base will appear." It is precisely in these cases that radiographs of the chest, repeated several times at intervals if necessary, are of inestimable value and often clinch the diagnosis. In fact, as Sloan¹² suggests, palpation and auscultation may be so unsatisfactory in a crying child that a radiograph of the chest may be the only method of demonstrating a beginning pneumonia.

The following case report epitomizes some of the diagnostic points enumerated above.

REPORT OF CASE

S. B., two year old boy, was admitted to the hospital March 16, 1931, complaining of pain in the lower abdomen which had kept him awake most of

the previous night. No nausea, vomiting or chill. The child had a spontaneous bowel movement on the day of admission. Examination showed a faint cyanosis of the lips together with a slight herpes and a moderately diffuse engorgement of the pharynx. Chest resonance clear with questionable impairment on the right side. Breath sounds normal, no rales. Heart normal. Abdominal examination was difficult due to the child crying, but there was a spasticity of the recti muscles which could be overcome on the left but not on the right side. There seemed to be maximal tenderness in the region of McBurney's point but no rebound tenderness. Rectal palpation negative. Temperature 104 (rectal) and respiration 40. Leukocyte count at 4:00 p. m. was 28,500 and at 9:00 p. m. it had risen to 39,400.

Despite the questionable chest findings, the labial herpes, the cyanosis, the absence of nausea and vomiting, the lack of rebound tenderness and the high leukocyte count speak in favor of a respiratory infection rather than an abdominal involvement. A series of radiographs of the chest taken over a twelve hour period showed progressive increase in the markings about both hili areas, particularly the right, and the right upper lobe. The diagnosis was bronchial pneumonia and the child made an uneventful recovery.

UPPER RESPIRATORY INFECTIONS

Although surgeons are fairly cognizant of the frequency with which intrathoracic affections produce abdominal symptoms, many fail to realize that infectious processes of the upper respiratory tract likewise often result in complaints referred to the abdomen. Particularly is this true in children, who are apt to refer any pain to this region, but in adults, too, tonsillitis, nasopharyngitis and related throat infections often closely mimic the signs of acute appendicitis. As a matter of fact, in children, with infections of the nose, throat and ears, abdominal pain occurs with far greater frequency than with pneumonia.

The exact mechanism by which these nerve forces travel is not quite understood. Whether sensory impulses initiated in the pharynx are conveyed to the medulla and thence by way of the vagus and glossopharyngeal nerves to the gastro-intestinal tract causing hyperperistalsis or actual spasm; or whether the musculature of the intestine is affected by the toxemias *per se* is uncertain. We do know that spastic contractions of the intestinal tract produce abdominal pain. Those interested in a further discussion of this phase are referred to Goldbloom's⁷ article.

Many of the cases classified as sore throat, grippe, influenza, and the like, occurring during epidemics of greater or less severity, are accompanied by abdominal pain. These prove sources of great worry because actual inflammation of the appendix is more frequent during epidemics of respiratory disease, as witnessed in our military training camps during

the World War. (Sloan.¹²) A similar increase in the incidence of appendicitis during epidemics of respiratory disease among the students at the University of Wisconsin has been noted by Evans.⁶ Therefore it is essential to realize the apparent intimate association of infections of the respiratory tract to appendicitis.

But in quite another class are the large group of upper respiratory infections producing abdominal symptoms without appendiceal involvement. In these patients the onset may occur coincidentally with the respiratory infection or the latter may antedate the abdominal symptoms by several days or have actually subsided before the pain in the abdomen begins. However, the pain is usually the first symptom noted and it commonly disappears before the respiratory condition has subsided, although Brenneman³ has seen it persist for weeks, even months. The nature and location of the pain are fairly constant, according to Brenneman.⁴ It is at the umbilicus, "is commonly intermittent, paroxysmal or colicky, may be very slight or very severe," is usually accompanied by fever with or without vomiting, but there is little or no concomitant tenderness or rigidity. It is probable that the persistence of pain in these cases may be ascribed to an inflammatory reaction in the mesenteric glands and undoubtedly many in this group owe their abdominal symptoms to an acute mesenteric lymphadenitis.

Sloan¹² states that a characteristic feature in the cases of influenza presenting abdominal pain is the "gassy crepitation one feels everywhere on palpation of the abdomen." In some instances he has found a Head zone, but my experience parallels that of Langstroth⁸ who found that hyperalgesia was of no importance in diagnosis of abdominal conditions ("with the possible exception of diseases of the kidney").

REPORT OF CASE

Quite typically illustrative of the foregoing group of cases is that of Miss B. K., an 18 year old salesgirl whom I saw in consultation with Dr. Solon Harris. She became ill one afternoon with cramps in the right lower quadrant, constipation, nausea and vomiting. When seen six hours later her cheeks were somewhat flushed, the fauces slightly red and there was a small patch of exudate in the left tonsil. There were no palpable cervical glands. Chest was practically negative and the heart was normal. Examination of the abdomen disclosed moderate tenderness in the right lower quadrant and slight tenderness in the left. There was little if any muscular spasticity. Rebound pain and Meltzer's sign were moderately pronounced. The hymen was intact and rectal palpation was negative. Temperature 103.5 (rectal), pulse 120, respirations 22. Urine normal. Leukocyte count 17,200.

The facies, red pharynx, rapid pulse and rather

high temperature were suggestive of the throat as the causative factor. The abdominal findings were not sufficient to believe that her appendix was causing such an elevation of pulse and temperature.

The following morning the patient had a definite septic sore throat, with a temperature of 103 degrees and a leukocyte count of 18,400, but her abdominal pain had disappeared. She made a quick convalescence and has remained well for the past year.

The close relationship of throat infections to pain in the right lower quadrant may be explained in part at least by certain very significant changes in the appendix that we have seen exemplified a number of times at the Jewish Hospital. If one performs an appendectomy on these patients, often the appendix appears grossly entirely normal. Microscopically there is no evidence of changes in the serous or mucous coats but one notes a marked hyperplasia of the lymph follicles and often round cell infiltration. This has occurred so frequently that upon finding this typical histologic picture one can often surmise the preexisting changes in the lymphoid tissues of the nasopharyngeal region. Upon reviewing the last 75 cases operated upon for appendicitis 13, or 17.3 per cent, gave evidence, on history or physical examination or both, of recent upper respiratory infection, and of this latter group 10, or 77 per cent, showed a lymphoid hyperplasia of the appendix. However, these appendiceal changes were present in only 7 (11.3 per cent) of the 62 patients without evidence of an upper respiratory infection.

These points are well exemplified by the following case.

REPORT OF CASE

T. J., a twenty year old male, had attacks of pain localized to the right lower quadrant, occasionally accompanied by nausea and vomiting, for the past three months. For the week preceding his entry to the hospital he had a slight "cold." The night before admission the pain in his abdomen "doubled him up" during which he had a chill and perspired profusely. Examination revealed an acutely inflamed pharynx and a large right tonsil covered with mucopurulent exudate. The respirations were abdominothoracic in type and his chest was normal. The abdomen was soft except for inconstant muscle spasm in both lower quadrants (voluntary?). There was rebound tenderness and a positive Meltzer's sign. No masses were palpable. Rectal palpation was negative. Temperature 101 (rectal), pulse 100, respiration 22. Urine normal, leukocyte count 14,200.

Several days later the throat, temperature and leukocyte count became normal and the abdominal symptoms subsided. Ten days after his attack his appendix was removed under spinal anesthesia. Microscopic examination disclosed a lymphoid hyperplasia.

CONCLUSIONS

Despite the well recognized fact that infections in the lungs and pleura often produce ab-

dominal symptoms, too frequently their importance is minimized. Emphasis must also be placed on the tendency of upper respiratory infections to cause symptoms closely mimicking acute appendicitis, and while at times there seems to be a causal sequence between inflammation in the nasopharynx and the appendix, in many instances microscopic study of the latter proves the condition to be merely a lymphoid hyperplasia. The keynote of the whole subject is to place more dependence upon the physical signs as evolved from a careful examination of the patient, and less upon the variable and often evanescent symptoms.

703 University Club Building.

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DISCUSSION

DR. HUDSON TALBOTT, St. Louis: While this is an old subject it is very timely for discussion now. Unquestionably many chest cases have been thought to be appendicitis. I am persuaded that a good many of the cases in years gone by reported as postoperative anesthesia pneumonia were pneumonia before they were operated upon. Those of us who are engaged in surgical work are frequently confronted with the very subject that has been so ably discussed by Dr. Lowenstein this morning—differentiating between an inflammation above the diaphragm and a lower one. I believe if a diagnosis of appendicitis has been made the appendix should come out—with certain exceptions. But in all cases of this kind where you are persuaded there is no emergency about the condition, as Dr. Lowenstein has pointed out, time will usually solve the problem. Another point I want to make is this; where you are persuaded you have no right to wait to remove the appendix, and there is still some question in your mind as to the possibility of a pleural or pulmonary infection, use spinal anesthesia not a general anesthetic, at least not one given by way of the lungs.

DR. WM. T. COUGHLIN, St. Louis: I do not think there can be a subject on the program any more important than that of appendicitis. While the patients that are coming in are in the main far more correctly diagnosed than formerly, yet occasionally there is a good deal of doubt in one's mind about the diagnosis. The child especially is likely to complain when it is not hurt. I think the appendix that does not show tenderness on palpation is not an appendix that is very ill, speaking of doubtful cases.

I think Dr. Talbott put his finger on it when he said the case that is in doubt is not a hurry-up case. There is no necessity for rushing it, as a rule. The child who has had throat trouble—is this child a suspicious case likely to have some abdominal trouble? It frequently happens. Twice in my life I have opened an abdomen after such throat trouble to be confronted with peritonitis. In fact, I knew the peritonitis was there but believed the appendix was the cause of the trouble. It was not; it was a diffuse streptococcus infection in each case, and the removal of the appendix in one case, while it did not do the patient any harm in the other case the patient did not recover.

The question of waiting and watching when there is chest disease is a very serious one. The patient who has chest disease breathes faster than normal. If you watch the face you notice the ala nasi dilate with each inspiration. That, and the fact that the patient does not have *tenderness* in the abdomen should make you suspect that it is not appendicitis. The patient who has a high leukocyte count, up to 20,000, in the early hours of the disease usually is not an appendicitis case.

STAPHYLOCOCCUS FOOD POISONING

EDWIN O. JORDAN, Chicago (Journal A. M. A.), has noted that the staphylococcus type of food poisoning differs in several respects from the more familiar type due to members of the Salmonella or paratyphoid group. There is a distinct difference in the incubation period. Staphylococcus food poisoning usually develops within a few hours after the toxic substance is swallowed. In the outbreaks thus far traced to this source, nearly all the persons affected have manifested symptoms within four hours, although rarely symptoms have appeared later. Human volunteers, of whom the author now has a record of approximately 100, almost invariably show the first objective symptoms in from two to four hours after swallowing toxic staphylococcus filtrates. Vomiting appears with considerable regularity about three hours after the feeding. No deaths have yet been observed from food poisoning of the staphylococcus type. In the four outbreaks definitely traced, twenty persons are known to have been acutely ill, without any fatalities. The same is true of the instances reported by Barber and by Ramsey and Tracy, living staphylococci as well as their products being swallowed in these cases. In four additional outbreaks summarized in which there is strong evidence that staphylococci were the inciting agents, 206 persons were affected, without a death. Approximately 100 human volunteers who have become ill after swallowing sterile toxic filtrates have all recovered completely. The symptoms are, however, in some cases alarmingly violent and accompanied by great prostration. The author does not believe that it can yet be said that this form of food poisoning is without danger to life.

THE PROGNOSIS AND TREATMENT OF SYPHILITIC AORTITIS *†

WILLIAM S. MIDDLETON, M.D.

MADISON, WIS.

In a careful analysis of the course of syphilitic aortic insufficiency Scott¹ voiced the consensus of clinicians as follows: "The more or less abrupt appearance of cardiac symptoms, and the progressive nature of the heart failure characterized the clinical picture. . . . Certain it is that in the type of patient [with the cardinal signs of congestive failure] here considered a frank cardiac decompensation marks the beginning of the end. The majority died in less than a year from the onset of congestive failure, and it was the exceptional case that lived more than two years."

The underlying pathology of syphilitic aortitis^{2, 3, 4} clearly indicates the gravity of the situation. Syphilis is primarily a vascular disease. The characteristic lymphocytic and plasma cell infiltration about the vasa vasorum of the aorta is accompanied by an early proliferation of their endothelial lining. True gumma formation is not common in the aorta. The nutritional changes incident to the encroachment upon the vasa vasorum reflect themselves in necrosis and mucoid degeneration with ultimate hyalinization of the intima. The interior of the aorta assumes a rubbery appearance with longitudinal rugation and peculiar translucent plaques. From the physiological standpoint even greater significance attaches to the inflammatory and degenerative changes in the media, whereby the elastic fibers become fragmented and replaced by fibrous connective tissue.

Nature has endowed the arch of the aorta more abundantly with vasa vasorum than any other portion. Hence the keystone of the circulatory system (fig. 1) is endangered by the heaviest burden of the syphilitic infection.⁴ Actually, this restriction may be even more sharply drawn to the first five centimeters of the aorta above the sinuses of Valsalva. This selective accentuation of the syphilitic process in the ascending arch of the aorta peculiarly

* Read in the Symposium on Syphilis at the 75th Annual Meeting of the Missouri State Medical Association, Jefferson City, May 23-26, 1932.

† From the Department of Medicine, University of Wisconsin.

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3. Saphir, O., and Scott, R. W.: The Involvement of the Aortic Valve in Syphilitic Aortitis, *Am. J. Path.* **3**:527, 1927.

4. Saphir, O., and Scott, R. W.: Observations on 107 Cases of Syphilitic Aortitis, *Am. Heart J.* **6**:56, 1930.

threatens the circulatory integrity. As evaluated elsewhere,⁵ "in the simplest construction, a loss of elasticity at this point implies a lack of adequate recoil to the alternating hemodynamic forces. More importantly, the position of the coronary orifices with relation to such a process carries the imminent danger of progressive encroachment upon the myocardial nutrition. A common consequence of this strategic localization is the ultimate involvement of the aortic valve." Tripier,⁶ and later



Fig. 1. The keystone of the circulatory system. Illustrating the important relationships of the first 5 cm. of the aorta. (Probes enter the coronary orifices.)

Saphir and Scott,^{3, 4} pointed out the mechanism by which the aortic insufficiency resulted from syphilitic aortitis. A sagging of the free borders of the aortic cusps may develop from a widening of the commissures between the valvular attachments and from the infiltration at the bases of the valve. An added factor contributing to aortic insufficiency in a majority of instances is the actual stretching of the aortic ring.⁷ Furthermore, the coronary arteries are commonly the seat of a concurrent atherosclerosis which adds a further hazard to myocardial competency.^{4, 7}

The cardiovascular legacy of syphilitic aortitis when viewed in terms of pathologic physiology is an ominous one and in the light of such an analysis Scott's quoted conclusion¹ does not seem overdrawn. Allbutt⁸ expressed the opinion that the relatively more serious prognosis of syphilitic aortic insufficiency was determined by the coincident encroachment upon the coronary orifices in this process. Other factors may be operative. The abrupt onset of cardiac consciousness without prior knowledge of a cardiac lesion is notorious in this condition. Accordingly, except for two inconstant symptoms of syphilitic aortitis, namely, sub-sternal oppression and paroxysmal nocturnal dyspnea, the patient may escape subjective consciousness of a grave circulatory condition until the pressure symptoms of an aneurysmal dilatation, evidences of congestive failure from myocardial incompetency or anginal manifestations obtrude themselves. Then, too, the absence of cardiac enlargement until the advent of aortic insufficiency is generally appreciated; and the physical diagnosis of early syphilitic aortitis depends upon strict attention to those signs which arise from the loss of elasticity with increased accessibility and size of the aortic arch. A majority of these cases are not recognized upon physical examination until aortic regurgitation or aneurysm has complicated the picture.

Nevertheless the social status of Scott's subjects¹ suggested possible discrepancies in the application of the conclusions to the general problem. As he pointed out, his subjects were drawn from the "charity wards of a municipal hospital. For the most part the patients were from the working class and more than 50 per cent were Negroes. Many patients had advanced heart failure when first seen." The Negro race constitutes a very small fraction of the population in the Wisconsin General Hospital. In all probability this circumstance accounts in part for the frequency with which cases of syphilitic aortitis are encountered before aortic insufficiency has developed. The ability to follow these patients through successive phases of circulatory imbalance has afforded considerable suggestive information. By reason of the significance of the cardiac enlargement orthodiascopy has come to occupy an extremely important place in the progress studies of these cases and my sincere appreciation of Dr. Chester M. Kurtz's faithful cooperation in this detail is herewith expressed. Characteristic case recitals follow:

5. Middleton, W. S.: Syphilitic Aortitis, Proc. Interstate Postgrad. Medical Assembly, 1931.

6. Tripier, R.: Etudes Anatomico-Cliniques, Paris, Coeur-Vaisseaux-Poumons, 1909.

7. Middleton, W. S.: Syphilitic Aortitis in Retrospect, Ann. Int. Med. 5:294, 1931.

8. Allbutt, C.: Diseases of the Arteries, Vol. 2, London, 1915.

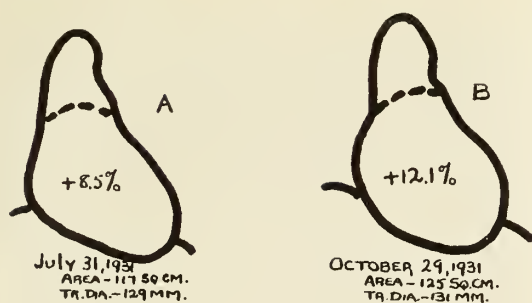


FIG. 2 - ORTHODIAGRAMS OF CASE I.

REPORT OF CASES

Case 1, J. W., white, laborer, aged 43, denied knowledge of venereal infection and complained of symptoms unrelated to the cardiovascular system on admittance (July 29, 1931). The inventory by systems evolved no suggestive subjective details. The physical examination revealed displacement of the apical impulse downward and outward, sixth left interspace outside the midclavicular line. No aortic shock nor retrosternal pulsation was elicited. A short blowing systolic murmur partially replaced the first sound at the apex. There was no aortic diastolic murmur nor were there peripheral evidences of aortic insufficiency. Orthodiascopic examination (fig. 2A) established unequivocal evidence of aortitis which, at the subject's age and in the presence of a positive blood Wassermann reaction, led to the conclusion of a luetic etiology.

Mixed treatment was instituted and the patient instructed to return in two months. At this time (October 23, 1931) a retrosternal pulsation was demonstrated and there was an impulse in the second right interspace. A supracardiac cap of dullness was determined. Of particular significance was the general agreement as to the presence of an aortic diastolic murmur transmitted down the left border of the sternum. The only subjective complaint was palpitation on exertion.

This patient is quite interesting in the observation of a developing aortic regurgitant murmur 3 months after negative findings. To orthodiascopy a slight but appreciable increase (4 per cent) in the cardiac silhouette was demonstrable (fig. 2B).

Case 2, F. W. H., white, blacksmith, aged 52, denied the knowledge of a syphilitic infection; but in the marital record there appeared two miscarriages followed by a child born at term and succumbing in a few days from convulsions. Thereafter, 3 apparently normal children were born. On entrance (December 12, 1928) he complained of his "heart running away." This circumstance was related in the patient's mind to an acute respiratory infection which had incapacitated him for 4 days, 7 months previously. Dyspnea likewise attended effort and for several days dependent edema was remarked. A substernal aching was also noted. Physical examination developed the following pertinent details: edema of the feet and lower legs, pulmonary congestion, cardiac enlargement to the left, supracardiac cap of dullness, total arrhythmia of cardiac action, aortic and mitral regurgitant murmurs, and peripheral signs of aortic and tricuspid insufficiency. The blood Wassermann reaction was positive. Or-

thodiascopy revealed a dilated elongated aorta and the orthodiagram determined the cardiac frontal area to exceed prediction by 14.7 per cent (fig. 3A).

Under bed rest, dietary control and digitalis, satisfactory circulatory equilibrium was established without effecting a change in the cardiac rhythm. Mixed treatment was followed by a course of sulpharsphenamine and he was discharged greatly improved after 2½ months of hospitalization. A second admittance almost 22 months later (December 15, 1930) determined an exacerbation of the picture above described. The dull substernal pain had become almost continuous. Added to the physical findings there was only a retrosternal impulse. The response to the routine measures for the control of the decompensation was prompt and maintained; so that after 2 weeks mixed treatment was cautiously instituted without adverse effect. He was again discharged after 32 days to continue maintenance digitalis therapy at home. No inconvenience was experienced for 4 months, whereupon dyspnea recurred on effort and nocturnal attacks of respiratory discomfort made their appearance. Edema of the ankles reappeared and became progressively worse in spite of digitalis therapy. Just prior to admittance (September 18, 1931) the difficulty in breathing amounted to actual orthopnea. The evidences of circulatory failure were quite pronounced on entrance; but in the judgment of the attending physician conditions were certainly no worse than on the first admittance (December 12, 1928). True, the heart and aorta had increased considerably in size (fig. 3B) and auricular fibrillation continued; but the response to bed rest, dietary control, digitalis and xanthin diuretics was excellent. After a period of 57 days he was discharged with compensation, Class IIB.

Case 2 presents a more serious problem in that aortic insufficiency was already established at the time of his first admittance. In spite of the persistence of auricular fibrillation and the orthodiascopic evidence of an increased myocardial stress (frontal area increase of 46.6 per cent in 34 months), this patient has survived his first circulatory failure for 3 years and bids fair to extend this period considerably.

Case 3, A. W. McC., white, laborer, aged 53, was first admitted March 4, 1929, for the surgical treatment of a toxic adenoma of the thyroid gland, the successful removal of which led to the subsidence of the basal metabolic rate from +53 per cent to +4 and +5 per cent. He admitted a specific urethritis 35 years previously but was ignorant of

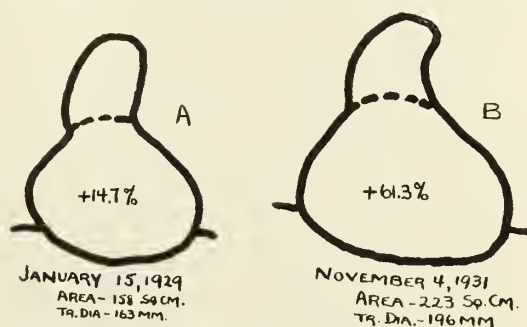


FIG. 3 - ORTHODIAGRAMS OF CASE II

a syphilitic infection. His wife had borne 14 apparently healthy children and had had no miscarriages. Physical examination at this time determined considerable cardiac enlargement to the left with an aortic diastolic murmur transmitted to the apex and axilla. There was also a rough systolic murmur heard all over the precordium with maximum intensity over the second right interspace close to the sternum. The peripheral signs of aortic insufficiency were complete. A positive centrifugal venous pulse was also demonstrable. The blood Wassermann reaction was negative, but the spinal fluid was + + + +. Orthodiascopic examination showed a definite aortitis and the orthodiagram established 22 per cent increase in the cardiac frontal area (fig. 4A).

the cardiac dullness were further widened. Orthodiagrams made during this stay (figs. 4C and 4D) revealed 90 and 102 per cent increases in the cardiac frontal areas above prediction. These figures represented gross progression over the two earlier determinations (figs. 4A and 4B). After the resumption of partial compensation a series of 4 injections of sulpharsphenamine was given intramuscularly. A fourth admittance (March 11, 1930) was occasioned by the return of dyspnea, in part determined by abdominal distension. Cough had persisted with the production of mucus occasionally streaked with blood. Moderate congestive failure was established to physical examination. The orthodiagram made at this time (fig. 4E) showed an actual increase in frontal area but the percentage

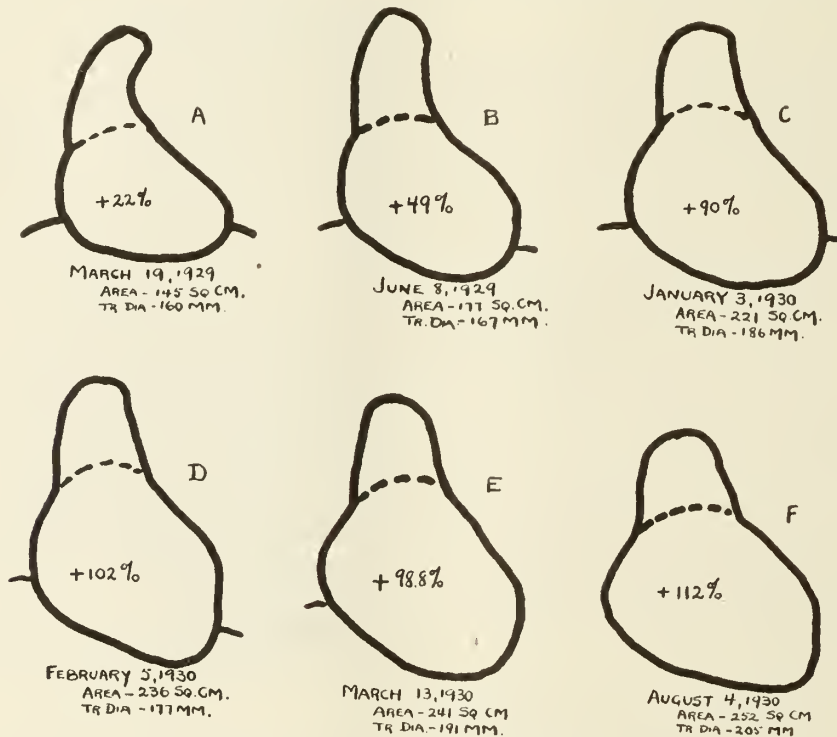


FIG. 4—ORTHODIAGRAMS OF CASE III.

During the convalescence from decompensation mixed treatment was initiated and on the tenth postoperative day he was discharged to his home with instructions for graduated exercise and the continuance of mixed treatment. After an interval of 7 weeks a further examination (June 8, 1929) was significant in revealing a marked increase in the cardiac area (27 per cent) to orthodiascopy (fig. 4B). Six months later (December 16, 1929) he was readmitted suffering from dyspnea with marked nocturnal paroxysms. For 2 months sleep had been frequently interrupted by these startling attacks. Edema of the ankles and legs began 6 weeks previously. Two days before entrance there had been slight blood streaking of a scanty sputum. To physical examination the evidences of congestive heart failure were distinct but the dyspnea was disproportional to the signs of pulmonary congestion. Again there was a positive centrifugal venous pulse. A systolic thrill was palpated at the base of the neck on the right. The supracardiac cap and

figure was lower than previously. This apparent discrepancy is explained by differences in body weight, by reason of which one factor in the prediction formula may be quite variable. In such instances the actual area figures are clearly more valuable than percentages. Paroxysmal nocturnal dyspnea constituted an important symptom during this period of study. The routine measures for the management of cardiac decompensation supplemented by xanthin diuretics proved effective; but on discharge the narrow margin of cardiac reserve led to strict instructions as to general hygiene. Only 2 months elapsed between this time and the last admittance (May 18, 1930). A marked accession in dyspnea and dependent edema had succeeded the withdrawal of digitalis support two weeks previously on account of nausea. The evidences of congestive failure were the most marked up to this time and a tedious, irregular response was observed under rest, restricted fluid intake, digitalis, xanthin and mercurial diuretics. A venesection of 550 c.c.

of blood tided over one period of circulatory collapse. Repeated paracenteses abdominis and scarifications of the legs and scrotum were resorted to and finally after 3 months' study and care he was discharged in a period of improved compensation. The most important objective observation of this period of study was the gross increase in the cardiac frontal area to orthodiascopy (fig. 4F).

This subject corresponds more closely to Scott's generalization in that with minor fluctuations the course was steadily downward from the outset of subjective symptoms. Notwithstanding this fact the temporary respites gained by the routine management of decompensation constituted an encouraging and instructive lesson.

Case 4, T. M., white, laborer, aged 45, admitted the appearance of a chancre 20 years previously. Three miscarriages had occurred in the wife before the birth of viable children. Dyspnea was related to a peculiarly heavy effort 6 weeks prior to entrance. A choking sensation in the neck and a sense of fullness over the precordium constituted further

admittance further widening of the cardiac and the supracardiac area of dullness was demonstrable (fig. 5B showing 46 per cent increase in frontal area over fig. 5A) and congestive failure was more marked than on the first admission. After an interval of 10 months pain in the chest led to a fourth admission (December 4, 1930). The patient stated that he had been relatively comfortable until 3 weeks previously when a sharp pain developed in the posterior aspect of the right chest. This pain recurred paroxysmally and radiated up and down the back. A distinctly different pain began in the right chest and persisted anteriorly. Hemoptysis of bright red blood was noted on several occasions. Impairment of resonance with a coarse friction rub appeared at the right base and the diagnosis of pulmonary infarction was confirmed by roentgenologic study. In general the grade of circulatory embarrassment was much more severe than on any previous examination and recovery of any margin of reserve was very tedious. The orthodiagram (fig. 5C) showed a further increase (11 per cent) in frontal area over 5B. After 2 months he was discharged in a relatively comfortable state and so remained for 7 weeks doing odd chores about the house. Then sleep was interrupted by a sinking sensation. To

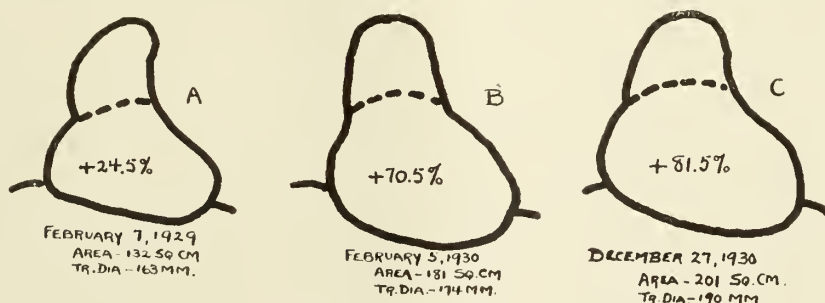


FIG. 5—ORTHODIAGRAMS & CASE IV.

major complaints. In the present relation (January 31, 1929) the physical findings of particular interest included precordial heaving with a systolic thrust in the second right interspace, marked cardiac enlargement to the left with a definite supracardiac cap of dullness, a double murmur at the aortic area, the diastolic element being transmitted to the apex, peripheral evidences of aortic insufficiency and general signs of congestive heart failure of moderate degree. Roentgenologic examination confirmed the existence of an aortitis and the orthodiagram (fig. 5A) fixed the cardiac frontal area at 24.5 per cent above prediction. The blood and spinal fluid Wassermann reactions were negative.

After the establishment of circulatory equilibrium mixed treatment was instituted and followed in 3 months by a series of 8 bismuth injections given at weekly intervals in the outpatient department. The development of progressive weakness, precordial pain and slight hemoptysis led (September 5, 1929) to a second period of hospitalization (15 days); and when circulatory competence was reestablished, mixed treatment was again initiated and succeeded in 3 weeks by a second series of 8 injections of bismuth. A third admittance after 4 months (January 22, 1930) was occasioned by dyspnea and epigastric discomfort, which became more painful as it radiated to the left side of the neck. At this point a choking sensation occurred and was accompanied by a compressive pain high under the sternum. On this

this was added extreme orthopnea so that he was compelled to sit up continuously. Study on this admittance (March 31, 1931) demonstrated an advancing decompensation with Cheyne-Stokes respiration, orthopnea, marked cyanosis, icterus, pulmonary congestion, engorged liver and generalized anasarca. Temporary respite was gained through venesection and supportive measures; but after a few days a steady decline was begun which led to death in 13 days. Necropsy was refused.

This patient corresponds to the preceding one (Case 3) in his general course; but he, too, experienced considerable relief with short periods of freedom from circulatory embarrassment under medical management. The duration of life after the onset of symptoms was 2 years. The progressive increase in the cardiac area as determined by orthodiascopy was very instructive.

The experience at the Wisconsin General Hospital would not lead to an unqualified subscription to Scott's conclusions.¹ The gravity of prognosis in syphilitic aortitis must be granted; but sufficient exceptions to the rule of a progressive decline after the development of aortic

insufficiency may be cited to invalidate it for universal application. Instances of the type of Case 2 are particularly heartening and encourage the clinician in the belief that a measure of rehabilitation may be possible, even though decompensation has intervened in aortic insufficiency of syphilitic origin. Perhaps, as Allbutt⁸ suggested, such patients have a fortunate escape from coronary encroachment in the syphilitic process. Cases 3 and 4 are more frequent types; but in spite of their ultimately unfavorable course, the responses to concerted action in the management of decompensation justify a more optimistic attitude on the part of the attending physician. The experience of Moore and Danglade⁹ in the prolongation of the life of patients with syphilitic aortic insufficiency from the 32 months' expectancy of the untreated group to an average of 65 months under appropriate therapy is particularly pertinent in this relation.

Of course, these reconstructed thoughts in prognosis depend upon an early recognition of the syphilitic process in the aorta and certain relatively clear principles in its treatment. To be strictly logical, the profession must take the position that the occurrence of syphilitic aortitis means neglect or inadequacy of early treatment. In the last analysis, it is a charge to the individual physician for the thorough care of early syphilis with a thought to the prevention of late visceral lesions; but failing of this ideal, the recognition of syphilitic aortitis before aortic insufficiency and serious myocardial damage ensue, will offer a much better prospect than a late diagnosis. Up to this point one may hope to arrest the syphilitic inflammatory reaction in the aorta, but the degenerative processes attendant thereto are beyond recall. For example, one would not expect to reduce the sacculation of an aneurysm to the proportions of a normal aorta. This circumstance must be kept in mind in anticipating the anatomic and physiologic results of any plan of treatment.

As a rule, the etiologic background is the therapeutic objective in syphilis; but other factors modify this situation in aortitis. Decompensation is an absolute contraindication to antisyphilitic treatment and the history of an earlier period of cardiac failure should lead to utmost caution in the exhibition of these drugs. While angina and cardiac arrhythmias may depend upon a syphilitic background, antisyphilitic drugs must be administered with great care in their presence, particularly if either circumstance be of persistent or serious

order. While aneurysmal dilatation is not *per se* a contraindication to such therapy, unusual precautions should be taken in its presence.

Where all conditions have been satisfied and antisyphilitic treatment has been determined upon, the clinician must bear in mind the tendency for patients with late visceral manifestations of syphilis to show serious reactions to arsenicals. It cannot be too emphatically impressed therefore that no patient with syphilitic aortitis should receive an arsenical without the earlier saturation with potassium iodide and mercury over a period of 6 to 8 weeks. At the Wisconsin General Hospital mercury salicylate is given intramuscularly in 1 to 1½ grain doses every 5 to 7 days. This method of administration has the advantages over injections of cleanliness, absorbability and closer control of the patient. Bismuth salicylate in similar doses may be substituted for mercury. Potassium iodide is begun at 15 grains three times a day and rapidly advanced to 60 or 100 grains three times a day.

By this plan of preparation the startling and deleterious results from arsenicals may be averted; but there must be no departure from the long preparative course of iodides and mercury. Thereafter, a series of weekly injections of arsenical preparations is in order. Several of these specifics are acceptable. Sulpharsphenamine has several virtues to recommend it, the chief of which is its availability for intramuscular use. From this circumstance a lower but more constant level of arsenic is maintained in the body. Small dosage is the rule for any arsenical drug under these conditions. Sulpharsphenamine is begun at 0.1 gm. and increased by regular increments to 0.5 gm. at weekly intervals. If the patient be unusually sturdy, an initial dose of 0.2 gm. may be given and increased by regular stages to 0.6 gm. The average series is 8 to 12 doses. There have been no adverse effects with sulpharsphenamine so administered in a wide experience at the Wisconsin General Hospital. Bismarsen in similar doses has been less widely utilized and the results have been comparable to those with sulpharsphenamine. Neoarsphenamine is regaining its lost position in the same relation. Its fall from favor was occasioned by its early indiscriminate use by clinicians without the proper preparation with mixed treatment. The dosage advised is very small, beginning at 0.05 gm. and advancing to a maximum of 0.3 gm. A series of 8 to 12 weekly intravenous injections is the rule. Two series each of mixed treatment and arsenicals are advised and thereafter a rest of 4 to 6 weeks is permitted. Then the above regimen

9. Moore, J. E. and Danglade, J. H.: Treatment of Cardiovascular Syphilis, *Am. Heart J.* 6:148, 1930.

of therapy is repeated. In outlining a plan, which should continue for 2 years, individualization rather than standardization should control any deviation. The reaction of the patient will serve as a better guide than the serologic returns, which commonly remain positive. The antisyphilitic therapy of the future, as it applies to aortitis, should offer a higher treponemicidal action without the danger of the serious by-effects which at times attend the use of available drugs in this field.

Recent congestive failure gives pause to the consideration of antisyphilitic therapy and, as noted, frank decompensation is an absolute contraindication to its employment. In the latter case the myocardial indication takes precedence over the etiologic when therapy is under advisement. Every effort must be turned to conserving and supporting the failing myocardium. Bed rest is the first indication. By this precaution the demand upon the myocardium for increased output is reduced to a minimum and the load of venous return to the heart is similarly decreased. The diet is as important in waterlogged patients with a syphilitic background as in any other etiology. Fluid restriction with a low salt intake will favorably influence the water balance in such patients. Digitalis is the sheet anchor in the treatment of any type of decompensation; and, when the degree of myocardial reserve is taken into account, the results from its use in patients with a syphilitic lesion will compare favorably with those of other etiology. Tolerance dosage is advised in 4 to 5 days rather than by the more rapid methods. If these measures fail to induce diuresis, the xanthin derivatives, especially theobromine sodiosalicylate and theophyllin, in 5 to 10 grain doses three times a day for 3 days, may be very efficacious. Theophylline, in $1\frac{1}{2}$ grains three times a day, and theocalcin, $7\frac{1}{2}$ grains three times a day, have a particular field of usefulness in these cases. The mercurial diuretics may prove valuable when the xanthin drugs fail. The modified Guy's or Niemeyer's pill, consisting of 1 grain each of powdered squills, powdered digitalis and calomel, is particularly useful in certain of these cases. Organic mercurial preparations, such as novasurol and salyrgan, have earned an indispensable place in this relation. A series of 4 doses (0.5, 1, 1 and 2 c.c.) is given intravenously by preference on alternate days. Their efficacy may be enhanced at times by the administration of ammonium chloride or nitrate 15 grains six times a day for 4 to 6 days before the use of the mercurial drug. The mechanical removal of transudates from the serous cavities and scarification for the relief

of marked and advancing tension of the skin of the scrotum and extremities from edema are clear indications too frequently considered radical and delayed to the patient's disadvantage. Venesection may play a decisive role in patients with venous hypertension.

SUMMARY

In summary, the gravity of the prognosis in syphilitic aortitis must be admitted from a knowledge of the underlying pathologic process and its strategic threat to vital circulatory units. Many of the histologic details of this process are irreversible; but clearly a response of the characteristic syphilitic changes may be anticipated under specific therapy. The ideal of this approach will not be achieved until more active treponemicidal agents can be used with impunity. The clinical latency of the process constitutes one of the serious difficulties in the early diagnosis, hence the early treatment of this condition. Every laboratory aid must be enlisted by the clinician in reducing this difficulty. In this direction orthodiascopy and orthodiagraphy have a peculiar field of usefulness. As a prognostic index the changes in the cardiac frontal area to this method afford one of the most valuable sources of information. Serious as is the outlook of syphilitic aortitis, particularly after aortic insufficiency has occurred, the clinician is scarcely in position to estimate the strength of the strand which supports the sword of Damocles. Even those patients developing serious congestive failure may regain a reasonable measure of circulatory competence and comfort. Obviously, the expectancy of life is markedly reduced under these conditions; but no arbitrary rule can be drawn from the study herein reported.

University of Wisconsin.

LINCOLN HAD NUMEROUS DOCTORS AS FRIENDS

Dr. William Wallace was undoubtedly for many years the family doctor of the Lincolns. But Abraham Lincoln's acquaintances among the doctors were numerous and included medical school graduates, undergraduates and those schooled by experience in the corner drug stores. Further evidence of Lincoln's cordial relations with the doctors is afforded by a letter often quoted, which he wrote with a twinkle in his eyes: Judge Blades, whom Lincoln had known as Dr. Blades, wrote to Lincoln, asking for the use of his name as reference, but neglecting to explain his change of profession. Lincoln answered: "I do not know whether you are Doctor Blades or not. If you are Doctor Blades, you may use my name; if you are not Doctor Blades, if Doctor Blades says you may use my name, you may do so." In the May issue of *Hygeia*, Dr. Milton H. Shutes narrates the experiences of Lincoln with numerous doctors whom he knew politically, socially or casually.

SYPHILIS OF THE NERVOUS SYSTEM *

SIDNEY I. SCHWAB, M.D.

ST. LOUIS

In a symposium on syphilis the nervous system occupies a prominent place. To the practitioner it is this phase of syphilis that arouses interest. For here is presented the most bizarre clinical pictures, the residuals of permanent injury, the progressive deterioration of the individual in his physiological, anatomical and intellectual functions, ending in the altered and distorted personality of paresis.

Syphilis of the nervous system clinically considered is no longer the clinical mystery that it was. So much has this field been cultivated, so many papers have been written about it, so full of clinical demonstrations have clinical meetings been, that the knowledge of syphilis of the nervous system has become the common property of every one interested in the practice of medicine, no matter what his particular field may be.

In 1913 or thereabouts at the meeting of the International Medical Congress in London, the first tentative clinical divisions of syphilis of the nervous system were put forward, chiefly as a result of Mott's and Head's clinical and pathological classifications. The term meningo-vascular as distinct from the parenchymatous process became from then on a means of differentiating the cell degenerative types of syphilis from those in which the meningo-vascular structures were mostly concerned. This made both clinical and anatomical classification easy, perhaps far too easy. There was too, a measure of therapeutic and prognostic implications in these terms which appeared to satisfy a demand for an escape from the confusion that had before existed.

The cell and neuron degenerative reaction characteristic of tabes and paresis, stood in opposition to the vascular and meningitic types of reaction, conforming in many ways with the idea of inflammatory infectious processes elsewhere in the body. The organism of syphilis being known, it needed but the histological and experimental evidence of the effect of that organism on the tissues of the nervous system to round out the clinical picture.

One can think in terms of actual happenings when confronted with a case of tabes or one in which the process was widespread, evanescent or with scattered foci of activity. Treatment was effective in one group, the meningo-

vascular; less effective, if at all, in the cell degenerative type.

For a time, then, the division between the meningo-vascular types of syphilis and central types fulfilled clinical requirements. It soon was evident that the nervous system was to be considered not merely the end-result of the infection of the organism with syphilis, but that the nervous system, practically from the initial stage of an infection, takes its part, and no inconsiderable part, in the totality of the process. It was observed that in the so-called constitutional phase of syphilis there were certain manifestations which pointed directly to the participation of the nervous system, and the symptoms complained of as well as the physical examination of the nervous system appeared to show that in this very early stage the nervous system itself was not immune. This observation, which is far older than the modern notion of syphilis, was confirmed when the examination of the spinal fluid in the so-called secondary or constitutional phase was done. It was found that in a considerable percentage, running anywhere from 15 to 30 and sometimes 40 per cent, the spinal fluid in the secondary stage of syphilis showed increase in cell count, lymphocytic in type, increase in globulin, and a rather feeble response, and in some cases more than that, to the usual Wassermann, Kahn or other tests. Abnormal colloidal curves were found.

It is evident, then, that the nervous system participates to a considerable extent in the early stages of syphilis at the time that the organism as a whole responds to the infection and as it becomes more widespread throughout the body. The fact that in most instances the reaction of the spinal fluid to Wassermann, as well as the increased cell count in the spinal fluid, are evanescent and disappear completely, does not invalidate the fact that at this stage of infection active participation of the nervous system occurs. No statistics are available as to how general this invasion of the nervous system is, as it is not customary in most syphilitic clinics to examine the spinal fluid in the constitutional reaction stage of syphilis. From the scattered statistical accounts that can be collected from various sources it is apparent that a considerable percentage of all spinal fluids in this stage of syphilis show active participation of the structures of the nervous system in the process. It would be interesting to know how large a percentage of the evanescent participation of the nervous system persists, and if from this group of cases in which the Wassermann is positive in the spinal fluid, and in which there is an increased cell count, and

* Read in the Symposium on Syphilis at the 75th Annual Meeting of the Missouri State Medical Association, Jefferson City, May 23-26, 1932.

in which there is the presence of globulin, and the typical curves, the final involvement of the nervous system depends. So far, the statistical material for any such conclusion is entirely wanting. It would throw a great deal of light upon the future selection of cases which would belong to the neuropsychiatric group if this question could be answered; and there is no doubt that it will be or is in process of being answered. The organization and development of the usual outpatient syphilitic clinics are not at the present time complete enough to warrant a routine examination of the spinal fluid in all cases of syphilis. When the answer to this question becomes important enough then no doubt the statistical evidence will be at hand. It would be of great advantage, of course, if at the time of the constitutional reaction of syphilis a group of cases could be separated out in which it could be said with some degree of accuracy that the nervous system would be the chief part of the organism which would remain as a permanent focus of the attack of the syphilitic organism. How soon following the initial lesion of syphilis does the nervous system show the result of the syphilitic invasion is another question that should be answered. There are scattered observations here and there which suggest at any rate that before the general constitutional period of syphilis, the nervous system is showing, in its spinal fluid reaction at least, evidence of the invasion of syphilis.

It is now apparent that the division into the meningovascular and degenerative cell type of syphilis does not complete the story, but that there is a preliminary or primary response of the nervous system following anywhere after the primary inoculation, or the primary sore, and extending throughout the whole constitutional phase of syphilis, and perhaps from then on forming a straight and continuous series of processes until the final and permanent involvement in the parenchymatous form takes place. If this possibility is not made too general and if the implications of the widespread involvement of the whole human body in the syphilitic process is not too broadly conceived, then it might be stated that the nervous system becomes involved to some extent at least as soon as the skin and tissue inoculation of syphilis has taken place. In this sense the nervous system occupies essentially the same position that other systems of the body do in regard to the total response of the organism to the infection of the human body with a syphilitic organism.

It can be seen from this that the clinical division of meningovascular and cell types of syphilis, which was so prominent a contribu-

tion to the knowledge of syphilis some 20 years ago, ceases now to fulfill clinical and anatomical demands.

While the predominating clinical picture in a case of syphilis may be demonstrated by findings and symptoms on the part of the nervous system, yet the process must be conceived as one invading the whole of the human body and not a specific or individual system alone. In this sense then it ceases to be a specific neurologic manifestation and, from the standpoint of a broad conception of internal medicine, syphilis of the nervous system does not exist as a primary and special division but presents itself as an important clinical group; simply because the nervous system happens in a certain percentage of cases to show the most important and significant presenting symptoms.

There is in addition to the usual classifications into an episode phase of syphilis of the nervous system, the phase of the meningovascular system, and the phase of the parenchymatous and degenerative period, a participation of the whole of the individual in the syphilitic process. It is difficult to define and characterize just what is meant by this term. Its significance lies perhaps more in the study of the individual case than it does in an attempt to group what I have in mind to discuss as the personality element. As instance after instance of syphilis of the nervous system is presented to the neurologist he is more and more impressed with the fact that syphilis is a disease which differs in many ways from all other diseases that we know anything about. In spite of all the education, training and knowledge that has become so widespread among civilized people in regard to syphilis, there remains in almost any individual who has been its victim, a conviction that he is suffering not from a disease comparable to other diseases, but that mixed with his disease is an element of social infraction bringing with it an element of social disgrace. This is not limited by any means to the more intelligent group, but it is commonly observed in any large material cutting through all the social levels. Not only is there a definite feeling of social inferiority, but there is also a conviction that the disease has a sinful and guilty implication. In sensitive individuals, and this by no means is limited to the group with education or culture, this notion is inbred with the first information that the disease is syphilis and tends to grow and increase until it acts almost with the dynamic power of a fixed idea or of a definite complex. This shows itself clinically in many ways as the disease itself responds to treatment or withstands treatment involving

other portions of the nervous system. No reference here is made to the phobias of syphilis, which occupy quite a different place, but represents a more or less intellectual and logical reaction on the part of the individual to his disease. It can scarcely be regarded as an exaggerated response, but represents rather what the increase in knowledge and information about syphilis has produced in the minds of intelligent men and women. It is scarcely necessary to mention here the fact that there is still a great deal of false information about the hereditary effect of syphilis, causing in some instances unfortunate and illogical fear of future progeny.

The point that is worthy of emphasis here is that running straight through the story of syphilitic infection in the usual run of men and women, there is a series of symptoms and reactions on the part of the whole individual which has nothing essentially to do with the changes in the nervous system or in the organs of the rest of the body, but is the personality response to infection and to the difficulty of maintaining the normal reactions in the face of a disease which has traditionally so widespread an effect upon him both as an individual and in his relation to society as a whole. In many instances the morbidness, the introspectiveness, shyness and mild types of depression, anxiety and fear responses which are so frequently met with in meningovascular and the final stages of cell degenerative disease, are due primarily to the burden of self-criticism which has been present from the initial stage of syphilis to the concluding chapter in the life of the individual.

Too little attention has been paid to these responses, which are here emphasized, and too little attempt has been made to survey intelligently this personality response and too little attempt therapeutically has been carried out to correct or adjust the individual to his infection. A whole chapter might well be written on this phase of syphilis. It is noted that of all forms of syphilis, it is the neurological syphilitic in which this reaction is most marked.

The nervous system should be regarded then only as one of the many systems or parts of the human organism which take part in the syphilitic reaction. The nervous system then is to be considered as reacting to the infection almost from the start of the inoculation, the classical chancre of the skin. At almost any time after the initial phase of syphilis the nervous system participates both symptomatically and from the standpoint of laboratory exploration. At the time of the constitutional phase of syphilis when the organism as a whole re-

sponds to the infection as any organism would in any case of infectious disease, the spinal fluid shows more active and definite participation. This is probably a temporary and evanescent phase in which the nervous system by its peculiar structure and by its resistance to infections of this sort may be said to overcome the forces of invasion and following this period, examination of the nervous system for a while at least, both clinically and from the standpoint of laboratory study, shows no definite and positive proof that its activity or functions are in any way disturbed by the infectious process that is still going on. At some period after this primary activity of the nervous system in a case which has been resistant to treatment or in which treatment has been either over-emphasized or has not been sufficient, the nervous system begins through its meningovascular tissues to show that the more permanent and the more serious lesions have taken place. It is in this period that the whole of the nervous system in all of its structures begins to show the effect of the process as a whole. Clinically, this period is characterized by widespread responses, by temporary and evanescent neurological findings, by the disappearance and reappearance of significant clinical and objective findings.

Whereas the lesions of this period are superficial, the clinical evidence is frequently striking and extremely handicapping. This is not only the period in which isolated nerve lesions take place, and in which ocular palsies or other clinical evidences show temporary appearance and disappearance, but it is the period in which the meninges involvement may become so widespread that the individual responds clinically exactly as he would if he were the victim of a meningitis in the usual sense of the term. Here, again, it is interesting to note that the nervous system as a whole seems to contain within itself definite defensive measures which by and of themselves seem to be able to withstand the syphilitic invasion and to bring the acute process more or less to a standstill. It is not uncommon to find in the meningovascular stage of syphilis that response to treatment is far beyond what might be expected from the effect of treatment. The only explanation seems to be that the nervous system of itself has defensive agencies specifically against the invasion of syphilis just as it has during the constitutional period, which has been referred to. Instance after instance has been noted in our own experience in the syphilitic clinic at the Barnes Hospital in which the meningovascular period of syphilis has been passed through without any permanent defects, with a

normal reaction to blood and spinal fluid, with no evidence clinically or in a laboratory way of participation of the nervous system. In many cases in which treatment has not been excessive or even sufficient this has been noted. From the meningovascular period the individual may come through with more or less permanent scars of defect and remain practically unaffected for the rest of his life, or the process may not stop there but may, as it frequently does, go on to the more permanent phase of cell degenerative type of syphilis seen particularly in *tabes dorsalis* or *paresis* or a combination of the two.

816 Beaumont Medical Building.

SYPHILIS OF THE OSSEOUS SYSTEM *

ARCHER O'REILLY, M.D.

ST. LOUIS

Syphilis is called the great imitator because there is almost no disease that it does not use as a mask. (Brunet.) This is true of syphilis of the osseous system, and especially of syphilis of the joints. It must always be suspected and eliminated in diagnosing bone and joint lesions.

I shall divide this paper into three parts: (1) Congenital syphilis of the bones; (2) acquired syphilis of the bones; (3) joint syphilis.

CONGENITAL SYPHILIS OF THE BONES

In congenital syphilis the first three months is the age period for all varieties of lesions; during this period practically all cases of congenital syphilis show bone lesions. After the first six months there is a tendency to recovery, either spontaneous or as a result of treatment. (McLean.)

Osteochondritis and periostitis are the most common forms in early infancy; osteomyelitis and osteitis are less common. (McLean, Selinger.) Clark says that in early infancy 98 per cent are diaphyseal and 2 per cent are periosteal.

In osteochondritis the epiphyseal region above and below the joint becomes affected, causing swelling with tenderness and pain. Rarely do the epiphyses become loosened. Osteochondritis is usually symmetrical. It is rarely seen in the upper epiphyses of the humerus and very rarely in the upper end of the forearm bones. It leads to inability to use the affected limb and is referred to as pseudo-paralysis. (Jones & Lovett.)

Osteochondritis may be mistaken for rickets or scurvy, but in these the characteristic signs

of syphilis are lacking. In rickets the bone ends tend to expand, diaphyses are ragged in appearance, the bone ends are crecentic, the shafts are bowed and there are other signs of rickets. There is increased density of the diaphyses in syphilis due to bone condensation and periosteal elevation. (Clark.) Syphilis and rickets may co-exist.

In syphilitic periostitis there is little destruction and one or more of the long bones, usually the tibia, is surrounded by a layer of subperiosteal tissue consisting of new formed bone surrounding the shaft. It is generally symmetrical, forms hard eburnated bone and affects thighs, shins and forearm most often. The saber tibia resembles the anterior bowing of rickets. In syphilis, however, the thickening is periosteal while in rickets it is endosteal; cortical thickening exists in both, but in rickets it is always on the concave side while in syphilis it is always on the convexity.

Diffuse periostitis is more formative and less destructive and causes the cortex to be greatly thickened by innumerable hyperostoses.

In gummatous osteomyelitis there may develop in the marrow of the shaft or epiphyses a nut size destructive focus or cavity. The periphery shows much formative activity. This process easily can lead to the formation of sequestra and fistula. (Jones & Lovett.)

Dactylitis is a late manifestation of congenital syphilis. It is a painless swelling of the phalanx with excessive production of new bone surrounding the shaft and extending to the diaphysis. The changes rarely go beyond the diaphyses, which is a point of differentiation from tuberculosis. (Clarke.)

McLean says the diagnosis of congenital syphilis can be made in the first month of life by the roentgenogram alone on the following lesions:

1. Well defined saw-toothed metaphysis in well calcified bone.
2. Deep zones (in the longitudinal axis) of sub-metaphyseal rarefaction.
3. Multiple separation of epiphyses, with or without impaction, in bones that are not rachitic.
4. Bilateral symmetrical osteomyelitis of the proximal mesial aspect of the tibia.
5. Multiple circumscribed osteomyelitis of the long bones, shown by the roentgen ray as patchy areas of rarefaction.
6. Multiple longitudinal areas of rarefaction (osteomyelitis) in the shafts of the long bones, sometimes resulting in fracture.
7. Destructive lesions at the mesial or lateral aspects of the metaphysis (foci of rarefaction).
8. Multiple areas of cortical destruction, generally seen within a centimeter of the ends of the bones.
9. Double zone of rarefaction seen at the ends of the bones.
10. Localized periosteal cloaking occurring in more than one bone.

* Read in the Symposium on Syphilis at the 75th Annual Meeting of the Missouri State Medical Association, Jefferson City, May 23-26, 1932.

Syphilitic lesions are always bilateral and in the first months of life a single lesion is not syphilis, in the experience of the author.

ACQUIRED SYPHILIS OF THE BONES

In acquired syphilis the bone lesions are primarily tertiary. A periostitis may occur in the secondary stage.

The bone lesions seen in the tertiary stage are, (1) periostitis, (2) osteomyelitis, under which may be classified localized gumma of the bones.

Periostitis is not as common in acquired as it is in hereditary syphilis. It may be the beginning of an osteomyelitis. Generally, the periostitis is along the entire bone, but it may have the appearance of blisters. There may be some destruction of bone associated with the periostitis. Then, again, there is an associated bone production causing a characteristic lace work appearance of the periosteum. (West.)

In osteomyelitis, gummatous osteitis and osteomyelitis may be local or diffuse. When localized, fractures often result. Generalized inflammation produces a sclerosis of the bone rendering it thicker and heavier. The spongy bones are subject to syphilitic osteomyelitis. The commonest sites are the head and face, particularly the nose. The vault of the skull may be the seat of suppuration, necrosis and perforation. (Albee.)

The diagnosis in the roentgenogram may be difficult between pyogenic and syphilitic osteomyelitis. The clinical symptoms are quite different. In syphilis the onset is rarely acute, pain or discomfort are slight with very little fever or systemic reaction. There is multiple bone and joint involvement. The roentgen findings are, multiple bone involvement, bone production more marked than destruction. The roentgen ray shows the pathology far in advance of the symptoms. (Clark.) There are also other signs of syphilis.

Periostitis and periosteal sarcoma may at times be confused. In sarcoma there is destruction and little repair. New growths in sarcoma are perpendicular to the shaft. In syphilis the bone is more laminated and tends to unite with the shaft at the margins of the disease. In syphilis the bone changes are constructive.

Galvin says that the bone changes in syphilis are so characteristic that if roentgen rays of the entire body were made the diagnosis would be as accurate as any present laboratory test.

In doubtful cases it is important to take pictures of the other bones because the Wassermann is not always positive. In many cases the final decision must rest on the therapeutic test.

Syphilitic arthritis is also hereditary and acquired. In hereditary syphilis the types are better known and more generally understood than in acquired syphilis. Arthritis is probably more frequent in hereditary syphilis, but statistics differ and run from 5 per cent to 70 per cent of arthritis in syphilitic children.

Osteochondritis with a secondary synovitis, which may become purulent in character, is often seen. The joint may become useless. This condition occurs in early infancy.

A common type of joint involvement is a simple symmetrical synovitis in children between eight and fifteen, usually in the knee. There is little pain or interference with function; there may be considerable fluid, but no other joint change. It is possibly secondary to bone involvement.

A single osteoarthropathy has been described, most common in the large joints. It begins insidiously with persistent nocturnal bone pain. It simulates tumor albus. There may also be gummatous infections of the synovial membrane similar to those seen in acquired syphilis. Acquired syphilitic arthritis is a much more interesting and varied problem.

In the early stages of acquired syphilis there is often an arthralgia, sometimes occurring before the rash. The pain may be severe, often worse at night. Motion is not impaired, or only slightly so, and does not increase the pain. It is similar to the pains in eruptive fevers.

During the secondary stage an acute or chronic synovitis is common. It may come on without warning, usually accompanied by some pain and tenderness. Pain is not increased by motion and there may be no other signs or symptoms, but in some cases it may be preceded by some malaise. The knees, shoulder, elbow and sternoclavicular joints are most often involved. It may simulate acute articular rheumatism.

Hydrarthrosis is a symptom appearing during the secondary stage. Hydrops may be the only clinical symptom and may appear at the beginning of the secondary stage or a year after infection. The onset is slow and insidious, usually without pain. The knee is most often affected.

In gummatous arthritis there may be chronic serous synovitis. Gummatous osteitis is a cause of secondary infection in the joints. When the disease is primary in the bone or cartilage much more damage results to the joint. The pain is less than in similar tuberculous conditions.

There may be a gummatous synovitis in which the joint becomes filled with gummatous villi. Pain varies and is frequently greater at

night. Remissions with almost complete cure and relapse are characteristic of this condition.

The tertiary stage of syphilis seems to be responsible for certain osteoarthritic changes. This type may simulate arthritis deformans. There is also a syphilitic spondylitis. As a rule the roentgen picture is negative, unless there has been some bone involvement.

In joint lesions the more common conditions that may be confused with syphilis are tuberculosis and the various chronic joint infections. Todd says: "Never diagnose rheumatism in any form until syphilis has been excluded as a possibility. Never diagnose tuberculosis or any other form of arthritis until you have excluded syphilis. Monarticular arthritis of a deforming type, at any age, with or without pyrexia, may be due to syphilis." A denial of infection should not be accepted because at times the patient is honestly not aware of his infection.

The diagnosis of joint syphilis should be made on, (1) a completely taken history to rule out syphilis; (2) a complete physical examination to discover any corroborative stigmata of the disease; (3) clear roentgenograms carefully studied to determine whether the process is constructive or destructive; (4) confirmatory Wassermann and luetin tests; (5) considerations of the results of tentative treatment. (Galvin.)

In syphilis, pain as a rule is absent or slight and is generally worse at night. Motion is generally not painful unless there is destruction. There are no heart lesions and fever is only present in the early secondary stage and as a rule is not high. The symptoms vary greatly, however, and are often contradictory. Roentgenograms are usually negative but as a rule adjacent bones show syphilitic involvement.

The prognosis in all cases of bone and joint syphilis depends upon the accuracy of diagnosis and the faithfulness of treatment. If taken in time good restitution should be assured. Even if there is much destruction specific treatment arrests the process and saves what is still reparable.

Galvin outlines the following course of treatment:

In treating bone and joint syphilis the treatment need not be as intensive as in other forms. Salvarsan or neosalvarsan can be given biweekly, combined with intramuscular injections of bismuth and the oral administration of potassium iodide, which has decided influence on bone absorption.

I agree with this and wish to emphasize the importance of potassium iodide in the treatment of joint syphilis.

Trauma seems to play an important role in

the tertiary lesions of syphilis. An injury to a bone or joint may cause a gumma. In a series of cases I found that direct injury or indirect injury as a result of occupational strain, caused joint lesions. Barthelémy thinks that traumatic accidents in nonsyphilitics are not as frequent as in syphilitics, and that all cases of frequent traumatism should arouse a suspicion of syphilis.

JOINT SYPHILIS

Joint syphilis is so varied in its manifestations that I think it may be of interest to give, in abstract, a few illustrative cases.

REPORT OF CASES

A man, aged 35, single, came to my office complaining of painful feet. Examination showed only flat feet. No venereal history. He returned in a week without improvement but complained of indefinite pains in his shoulders and back. A suspicion of syphilis was aroused but no history obtained. A Wassermann was reported 4 plus. The patient was astounded as he was going to be married in four weeks. He then remembered that ten or fifteen years before he had had a slight abrasion that he had entirely forgotten. A second Wassermann by another serologist was also positive. Under treatment for syphilis the foot and other symptoms promptly cleared up.

This case shows that syphilis may be at the bottom of foot strain, and also the fact that the patient may be honestly ignorant of an infection.

A colored woman, aged 38, married, was seen in the Washington University Dispensary. She had had pleurisy at 30 and sick headaches, worse at night. Had night sweats a month before entering. Five out of seven children had died; one miscarriage. Seven years before, right elbow had become stiff; treated at Washington University Dispensary for six months; got well. Five months before entering right elbow had again become swollen and painful. Knees shortly after became involved. Wassermann 4 plus. The swelling in the elbow was fusiform and suggested a tuberculous elbow. Some tissue removed from the elbow was reported by the pathologist as tuberculous. Guinea pig inoculation was negative. Under syphilitic treatment the patient promptly recovered with only slight limitation in the elbow.

This case is of interest because it shows the similarity to tuberculosis and for the pathological report. The history, of course, suggested syphilis. If the patient had been treated for tuberculosis the outcome would not have been so good.

A female, white, married, aged 48, waitress and laundress, was seen at the clinic. Her husband was unhealthy. Occasional sore throats, one miscarriage, no children. Menopause four years before; nervous since then. Just after menopause, left hand began to swell over knuckles and was painful on motion. Six months later pain suddenly went to left foot and right hip, then to right foot. A year later, right knee was involved. Other joints except hand and

knee improved. Had fever at time of onset and lost hair before joints were involved. Had discharge from nose for last three years and from ears for last six years; also had chronic urethritis, Bartholinitis gonococcus not found. The patient presented a typical picture of atrophic arthritis. She was given a brace and was sent for nose and ear treatment. There was some slight improvement. Two months after admission a Wassermann was 4 plus. The patient was given potassium iodide and mercury with considerable improvement, but had to give up the iodine. She was then given neosalvarsan and was not seen for two weeks. The result was startling. She returned without the brace, and could walk with only slight discomfort, the swelling over the phalangeal joints had diminished and the hands were more flexible. The knee could be straightened almost to normal and could be flexed to 90 degrees. After two more injections the patient was practically normal except for some slight thickening in the hands. She was working and never felt better in her life.

The history strongly suggested atrophic arthritis; syphilis was also suggested. I do not want to suggest, however, that syphilis is the cause of atrophic arthritis. It is not. It may simulate the condition and may at times be a factor in causing it. Syphilis should, however, be considered in connection with all arthritic cases. In this case the startling results following treatment were most interesting.

Boy 14, came to the clinic of DePaul Hospital. For a year he had had a lump back of both knees; they bothered him only when kneeling and on getting up. The fluid was serous and came from the joint. There was some improvement with a pressure bandage about the knees. A Wassermann taken after he had been attending the clinic for about a month was 4 plus. There were no other signs of hereditary syphilis.

This is a case of bilateral syphilitic hydrarthrosis. It is interesting in that the patient did not show any other signs of congenital syphilis.

Male, aged 55, married, came to Washington University Dispensary. Had had gonorrhea 10 years before but denied syphilis. Two weeks before, developed pain in right knee. Not swollen, motion limited, slept well. Heat and liniment did not help. When seen there was fluid in the knee; it was hot, swollen, flexed 30 degrees, with little motion. Wassermann 4 plus. Under antisyphilitic treatment the improvement was steady.

This is a monarticular type. There is nothing unusual in it, but it shows the advantage of a routine Wassermann test.

SUMMARY

Syphilis of the osseous system may be divided into congenital and acquired lesions of the bones and into syphilitic arthritis.

A great many infants with congenital syphilis show bone changes. The earliest are osteochondritis and periostitis. After the first year of life these changes tend to heal, either spontaneously or as the result of treatment. Later, there may be synovitis and then gummatous

changes similar to the changes in the tertiary stage of acquired syphilis. These are periostitis and osteomyelitis, and gummas of the bones. When near a joint, they may extend into that structure causing gummatous arthritis. Bone involvement is always multiple and usually symmetrical.

In acquired syphilis we have periostitis, osteitis and syphilitic osteomyelitis.

Congenital arthritis is probably more frequent than the acquired type. In early infancy a synovitis that may be purulent is often secondary to osteochondritis. In older children there may be a simple symmetrical effusion without pain. Later, there are gummatous involvements of the joints.

In acquired syphilis we may have an early acquired syphilis before the rash. Later, there may be acute or chronic synovitis, and in the tertiary stage there are various gummatous involvements of the joints.

The symptoms are, as a rule, not in proportion to the pathology. Pain is generally absent or not very severe and is usually nocturnal. The symptoms, as a rule, are quite contradictory.

Syphilis may simulate many conditions, especially tuberculosis, sarcoma and in the joints rheumatism and the various forms of arthritis.

The diagnosis must be made on the history, roentgen examination and on the Wassermann. At times, the therapeutic test may be necessary. Syphilis should be suspected in all doubtful cases and should be excluded.

The diagnosis must be accurate because an error may result in serious injury to the joint, as would result from unnecessary operative procedure.

3534 Washington Avenue.

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THE EFFECT OF MALARIAL THERAPY UPON THE CONGENITAL SYPHILITIC *

CHARLES C. DENNIE, M.D.
KANSAS CITY, MO.

The treatment of the congenital syphilitic child must be approached from an entirely different angle than that pursued in the adult acquired disease.

The adult syphilitic resists his malady with body cells which have been comparatively uninjured during their growing stage and can therefore combat the disease with the greatest efficiency. This statement does not hold for the congenital syphilitic.

The child is the offspring of parents, both of whom are suffering from a profound chronic disease. The damage that such a disease must do to both the spermatozoa and the ovum cannot be estimated. The child itself is flooded with the spirochaeta of syphilis at some time during its confinement within the uterus. It is possible for the child in utero to pass through all the earlier stages of syphilis and emerge therefrom with a late form of the disease. For some strange reason the fetus may undergo all the stages of syphilis that the adult goes through in all his after life. Therefore a child born with profound evidence of syphilis might spontaneously recover from these disease manifestations so that at the end of a year it would not have a single sign on its entire body. But the result of this disease on its life in utero and in its life outside the uterus would so depress the vital function that it would be a defective child.

The effect of the syphilis upon the placenta is very marked. The syphilitic organisms affect the blood supply so that the fetus is ill nourished from the beginning. The diseased placenta is more often the cause of premature birth than the syphilis in the child itself. A syphilitic placenta weighs from one third to one half more than a normal one, the blood vessels are cut off by an endarteritic process so that naturally the growing fetus would not receive proper nutrition from such a placenta. We start with a handicap in the treatment of the congenital syphilitic. Low resistance to the specific disease, cells altered by a profound disease while in utero and these same cells reacting rather badly to the ordinary methods of treatment during infancy and childhood.

It is a well recognized fact that there is a varying time when the syphilitic is free of signs or symptoms and may even have a nega-

tive Wassermann reaction. This stage of quiescence, or the latent period of syphilis, is really not latent at all. The spirochaeta slowly overcome the resistive forces of the body until they gain the upperhand and the patient again suffers from the signs and symptoms of syphilis. In other words, he has lost his resistive power to that particular disease. Since in both acquired and in congenital syphilis we see a great majority of our patients in this stage, it is highly desirable to increase their power of resistance. We cannot do it with the ordinary measures, such as the arsphenamines, mercury, bismuth and the iodides. The patient with paresis, with locomotor ataxia, with interstitial keratitis, with certain types of bone disease, with certain types of cardiovascular disease, and with many other late manifestations of syphilis, is not a suitable subject for the ordinary method of treatment because his resistive powers are at such low ebb that the ordinary methods will frequently do no good, and often do harm.

We know that syphilis itself is one of the most powerful stimulators of the reticulo-endothelial system. Our defense against parasitic diseases lies in this system. We have only to glance at a few of the sections of tissue taken from an individual who is suffering from acute syphilis and we are convinced of the truth of this assertion. We observe the collar of lymphocytes in the perivascular lymph spaces, the enlargement of the spleen due to infiltration with the different types of lymphocytes, the macrophages between the lobules of the liver and the enlargement of the lymphatic glands due to their intense packing with the lymphocytes. These are the indications that the reticulo-endothelial is putting up a gallant fight against the disease of syphilis. But this system, the same as any system, soon becomes tired and puts up but feeble effort against the invading parasite and just enough effort to keep the disease above the minus balance. Malaria is also one of the greatest stimulators of the reticulo-endothelial system in which our protection against syphilis lies. This system is composed of the lining of the blood vessels, the pulp of the spleen, the stellate Kupffer cells in the liver, certain cells of connective tissue origin in the brain and spinal cord and all those macrophages and lymphocytes that are present in the fixed tissues of the body. To this one can also add the osteoblasts and osteoclasts of the skeletal system.

THE ACTION OF THE MALARIAL PARASITE

When the malarial plasmodium enters into the body it seeks exactly those same places that are sought by the spirochaeta pallida. In a

* Read in the Symposium on Syphilis at the 75th Annual Meeting of the Missouri State Medical Association, Jefferson City, May 23-26, 1932.

great many instances it seems that nearly all of these parasites seek the same sites that the organism of syphilis seeks. That is, in the perivascular lymph spaces, in the blood vessel walls, in the spaces between the liver cells and lobules of the liver, in the spleen, in the meninges, in between the brain cells themselves and between the cells of the spinal cord and beneath the periosteum of the bone and in the bone marrow. As soon as they have increased in sufficient number to attract the attention of the reticulo-endothelial system, the endothelial cells lining the blood vessel begin to enlarge, cast themselves off as living independent cell units, penetrate deep into the tissue and destroy both the malarial plasmodium and the spirochaeta itself. The stellate Kupffer cells in the liver, the macrophages in the spleen, the cells of connective tissue origin, all take on renewed activity, increase in size, devour their own food and lead independent lives. They all use the malarial parasite and the spirochaeta as pabulum. But they also have another action which is far more important than that of destroying the parasites in the body and that is, their ability to act as scavengers. They destroy and use as food, dead cells, injured and dying cells, cell detrition toxins and young connective tissue cells in most inaccessible places, such as those spaces surrounding the vital cells of the brain, in the spaces between the epithelial cells composing the cornea, in the liver, the spleen and beneath the periosteum. They thus clear out these lymph channels and once more allow the oxygenated blood to reach those parts. We might compare the action of the malarial parasites to the reconstruction of a great irrigation system so that it will once more become effective. Supposing an irrigation system had gone to the bad. There was plenty of water and the flood gates were all right, but all of the irrigation ditches were filled with branches of trees, dirt, grass, and debris. Certainly no water could go through those parts, consequently the land would be arid. The first thing one would do would be to clear these ditches of all their debris so that the water could once more flow freely through these channels. To my mind, that is exactly what the malarial parasite does, through its activation of the macrophage. It clears out the lymph spaces of all this material so that oxygenated blood once more can reach those parts.

It always seemed strange to me that early syphilis of the brain and spinal cord would respond so promptly to the ordinary arsphenamine treatment, while paresis and locomotor ataxia, on the other hand, would respond so badly, and in many cases the disease would be

accentuated by such treatment. There is no particular reason why this should be so. The vascular system of the brain reaches within the brain in early syphilis the same as it does in late syphilis, but we know that the curative substances which we wish to place around and in those inner cells never reach that place. In early syphilis of the brain and spinal cord, we do not have all these injured, dead and dying cells, all this lymphatic injury, a condition that we certainly do have in late syphilis of the brain and spinal cord. Therefore, I believe that if we are able to clear up this cell debris by the use of the malarial parasites through its stimulation of the reticulo-endothelial system, we have made it possible for ordinary medication once more to reach the source of the disease, and oxygenated blood can once more supply the materials necessary for their repair. Malaria, then, increases the activity of the reticulo-endothelial system, it clears away all the debris blocking up the channels, occluding small blood vessels, and takes away materials deposited between the cells themselves and is one of the greatest activators known to medicine today.

The role of fever in malarial therapy is not the main advantage gained from this type of treatment. Many cases of syphilis respond to malarial treatment without a rise or but very small rise in temperature. It is true that those who have a limited amount of temperature, as a rule, do better than those who have no temperature. Breutsch believes that temperature is an activating factor only. From experiments that he has conducted in vitro he is of the opinion that the macrophage, the product of the reticulo-endothelial system, is highly indifferent to the malarial parasites at normal temperatures, but gains increased activity and devouring power when the temperature is raised to a certain degree.

WHAT MALARIA DOES FOR THE CONGENITAL SYPHILITIC

Cerebrospinal Syphilis.—Altogether, we have treated at Mercy Hospital sixty patients with malarial therapy. Forty of these cases have syphilis of the central nervous system, divided into three groups, (1) juvenile tabes, (2) juvenile paresis or juvenile taboparesis, and (3) cerebrospinal syphilis.

I cannot see any particular advantage in treating the juvenile paretic with malaria over any other form of treatment. The result is nearly always inevitable death. This has always been true in the juvenile paretic and I believe will always be true when we get the patient in that stage of the disease. Juvenile

tabes, on the other hand, does a little better. We have been able to change the blood and the cerebrospinal fluid from positive to negative in about 60 per cent of the cases, with a consequent improvement of the individual himself. How long this improvement will remain, I cannot tell. In the cases of cerebrospinal syphilis the results are remarkable. In over 90 per cent of the cases we are able to convert the positive blood Wassermann and positive cerebrospinal fluid findings into negative ones within one year's time. Of course, you must remember that this is not with malaria alone. We give the malaria during the middle course of the treatment while the blood and cerebrospinal fluid are still positive and follow this course of malaria with ordinary treatment for six or eight months. In our previous experience, it had been almost universally true that where we had a positive cerebrospinal fluid it was very difficult to get negative findings with any type of treatment before we instituted malarial therapy. The impressions that I am giving you now are general impressions. While we have all the figures and all the facts, we have not as yet fully tabulated them, so that I am able to give you only approximate statistics.

I wish to report here one family of especial interest; father, mother and seven children. The father had a well developed case of locomotor ataxia. The mother had unequal pupils which were slow to light, exaggerated knee kicks and some Rombergism. Evidently a case of pretabes. The seven children range in age from fourteen years to one year at the present time. All of them had symptoms of cerebrospinal syphilis (with the exception of the last child whose case I will explain later); these symptoms were, unequal pupils and slow pupillary reaction. The oldest girl had no stigmata of congenital syphilis, but the next five children according to their ages had many of the typical signs of congenital syphilis, such as Hutchinsonian teeth, lack of development of the upper jaw, square foreheads, prognathous under jaw, scaphoid scapula, knock knees, outflung elbows, enlarged liver and spleen.

The family came to me when the sixth child was three months of age. It was the key child, for it had a well marked eruption of secondary syphilis over its entire body, including the palms of the hands and the soles of the feet. The cerebrospinal fluid of all the children, even including the infant, was four plus positive, positive cell count, positive globulin and positive Lange's gold chloride reaction. The children were treated for six months with ordinary method of treatment, and again the

cerebrospinal fluid was checked. The only change was in the cell count; otherwise, the Wassermann, the gold and the globulin were positive. All the children except the youngest were then given malaria successfully. Three months after the malaria course was given, the cerebrospinal fluid was again checked. All the patients except the next to the youngest child had negative cerebrospinal fluids. The youngest child, who had been given no malaria, still showed a four plus positive Wassermann upon the cerebrospinal fluid. A year later these children were again checked. All had negative cerebrospinal fluid excepting the child who had not had malaria. During the interim they had had two courses of treatment consisting of eight doses of neosalvarsan and ten doses of bismuth. The mother became pregnant while the children were under treatment and received an intense arsphenamine course during the whole of her pregnancy. She was delivered of a normal child that at the present time has a negative blood and a negative cerebrospinal fluid.

INTERSTITIAL KERATITIS

The results in interstitial keratitis are but short of miraculous. We have treated some eight cases in this manner. Every case has responded beautifully in from one fourth to one half the time that it ordinarily takes to clear up this type of case.

When the children come under our care with well marked symptoms of interstitial keratitis, such as cloudy cornea, circumciliary injection, photophobia, and all the hosts of symptoms and signs that go with interstitial keratitis, the spirochaeta are no longer present in the cornea. They have done their damage and have disappeared. They have left in their wake, dead cells, dying cells, cell detritus and young connective tissue cells, which are responsible for the cloudy appearance of the cornea. For this reason, the ordinary methods of medication are of little value. The administration of arsphenamine, mercury, iodine and bismuth has some good effect upon interstitial keratitis. The explanation of the slowness of the antiluetic remedies of the ordinary kind is based upon this theory:

That these substances cannot oxygenate debris nor can they carry away dead cells. On the other hand, the malarial parasite stimulating as it does the macrophage, is responsible for the carrying off of these harmful materials, and probably does it in this manner: The macrophage, having ameboid characteristics, can insinuate itself in the lymph channels between the individual cells composing the

cornea of the eye. Thus it actually devours the dead cells, the cell detritus, the injured cells, the young connective tissue cells, and the toxins left there by the spirochaeta. In other words, it clears out the irrigation ditches and the inflammation soon subsides and lymph channels are once more cleared so that the ordinary medication can get to the place where it will do the most good. Do not understand me to say that malaria is a cure for syphilis. It only places the patient in such a shape and so increases his resistance to this disease that subsequent medication is far more effective than when given before malarial therapy is administered. Albert W. Lemoine, Alvin J. Baer and Harry Davis of the eye department of Mercy Hospital, in reviewing these cases of interstitial keratitis that have been treated with malaria, say that it is by far the best method of treating interstitial keratitis. So far, we have not had enough experience with choroiditis, retinitis and optic neuritis to report upon the beneficial or harmful action of malarial parasites.

After a case of interstitial keratitis has been treated by malarial therapy, no other method of treatment should be instituted for at least two months. If the arsphenamine, mercury and bismuth therapy is started immediately after the termination of the malaria, the interstitial keratitis may again be activated. Where we have waited six weeks and then instituted syphilitic treatment, we have had not a single recurrence of the interstitial keratitis. In three cases of interstitial keratitis with but one eye affected, the interstitial keratitis in that eye has promptly cleared up by this form of treatment and the other eye, so far, has not become affected.

CONGENITAL SYPHILIS OF THE BONES AND JOINTS

The action of the malarial parasite upon congenital syphilis of the bones and joints is quite remarkable in both constructive and destructive lesions. In constructive lesions, the periostitis is greatly reduced and the new bone formation is swept away by the action of the malarial parasite. The process begins after the second chill and within six to eight weeks after the last chill the reaction is as marked as that from any other course of treatment, even including the use of salvarsan. In the radiograph taken after the third chill the new syphilitic bone has the appearance of being worm eaten, but after all the chills have been passed the bone then becomes smooth and almost normal in appearance. Of course, no syphilitic bone ever becomes quite normal with any treatment that we

might care to use. In this instance, the malarial parasite stimulates the osteoblasts so that they carry away the newly formed bone. Old syphilitic processes in which the bone is hard and dense are not affected by the malarial parasite any more than they are affected by any other form of treatment. It must always be kept in mind that scar tissue or bone tissue of any kind will not be removed by the malarial parasite nor by any other form of treatment.

In destructive bone lesions, where the interstitial part of the bone is not destroyed but in which the bone salts are removed, the action of the malarial parasite is just as remarkable as it is in the constructive lesions. We have had cases of epiphysitis in which both ends of the bones were almost entirely removed, giving the joint a ragged appearance. Within five weeks after the first chill these joints have been reconstructed. The action in this case is probably due to the stimulation of the osteoclasts that deposit new bone cells in the injured parts. The action upon the subperiosteal gumma is of also equal brilliance. We have had cases that have been operated on and have refused to heal (the lack of healing, of course, was due to congenital syphilis of the bone) in which not only was the bone repaired, but the sinus closed up and the leg completely healed within two months. There remains no doubt, then, upon the specific action of the malarial parasite in the treatment of syphilis of the bone and joint.

RESISTANT SYPHILITIC SKIN LESIONS

We have also demonstrated the fact that syphilitic skin lesions which resisted all other forms of treatment will heal under the influence of malarial therapy. We will show two slides illustrating this fact. In both these instances the patients had lost their resistance to the disease of syphilis so that the ordinary methods of treatment had no effect at all. Working upon the theory that malaria stimulates the resistive forces of the body, these patients were both inoculated with the malarial plasmodium. After the proper number of chills the skin lesions of both cases promptly disappeared. These series of cases illustrate the fact that malaria certainly has a definite action upon destructive and constructive syphilitic processes whether they be in the congenital or acquired form. The action of the malarial parasite has far more value than that of any syphilitic remedy added to our already known armamentarium. We have definitely shown that malaria will heal lesions where other syphilitic remedies have failed. We have also demonstrated the fact that if subsequent treatment is not instituted, after a period of

weeks or months, these same lesions may reappear, showing that the malarial parasite raises the resistance of the individual to his disease but does not hold it there indefinitely. When these lesions do reappear after malarial therapy, the same remedies which were a failure before malaria was instituted become very effective after malaria has been used. From these two observations we reach the conclusion that malarial therapy not only increases the patient's resistance to his disease, but restores the therapeutic value to drugs used in the treatment of syphilis which were a failure before malarial therapy was instituted.

CONCLUSIONS

The effect of malarial therapy upon the congenital syphilitic consists of four phases:

First, it heals the syphilitic lesions, unless they are composed of scar tissues.

Second, it raises the resistance of the syphilitic individual to his disease.

Third, it increases the efficacy in drugs that were a failure when used before the malarial therapy was instituted.

Fourth, the children become strong and sturdy after malarial therapy, in contrast to the observation that they were weak and anemic before it was given.

1524 Professional Building.

ROLE OF FEMALE SEX HORMONE

According to ROBERT T. FRANK, New York (Journal A. M. A.), the female organism, from the neonatal age to the menopause, and perhaps beyond this critical period, is under the influence of the preputiary hormone and the female sex hormone. After puberty, it is affected at intervals by the progesterational hormone. He summarizes these various endocrine influences thus: The anterior lobe hormone stimulates the ovary to produce follicles. The follicle in turn elaborates the female sex hormone, which reaches the tubular tract (tubes, uterus, vagina) by means of the blood stream. The tubular tract, after sufficient blood concentration has been reached, then undergoes the early premenstrual changes. Following ovulation, the corpus luteum develops. This transitory gland continues to produce female sex hormone as well as a special hormone, whose presence in the circulation has not yet been demonstrated, enhancing the local uterine and breast changes necessary for the nidation and early nutrition of the fertilized ovum. Among these changes, sensitization of the uterine mucosa, requisite for successful embedding, is particularly important. If the corpus luteum is removed at this early stage, the ovum fails to secure the necessary firm hold in the endometrium and abortion results. The chorion epithelium, later developing into the placenta, an important gland of internal secretion, takes up the production of both female sex hormone and preputiary hormone. Probably as a safety factor the circulation is flooded with these two internal secretory products to such a degree that an enormous amount is excreted through the kidneys and bowel throughout pregnancy.

THE PRESENCE OF SYPHILIS IN COMPENSATION CLAIMS AS VIEWED BY THE MISSOURI WORKMEN'S COMPENSATION COMMISSION *

MR. JAY J. JAMES, Commissioner

KANSAS CITY, MO.

The Missouri Workmen's Compensation Law was passed by the fifty-third General Assembly in 1925. The law is elective and if both employer and employee have elected to accept said law the employer shall be liable irrespective of negligence to furnish compensation for personal injury or death of the employee by accident arising out of and in the course of his employment. The exception is where the injury or death is due to the employee's intentional self-inflicted injury.

The word "accident" shall be construed to mean an unexpected or unforeseen event happening suddenly and violently with or without human fault and producing at the time objective symptoms of an injury.

The terms "injury" and "personal injury" shall mean only violence to the physical structure of the body and such diseases and infections as naturally result therefrom.

The commission holds that all consequence of an accident are personal injuries and includes resulting infections or diseases or an aggravation or acceleration of a preexisting disease. No other course is open to the commission for the statute does not prescribe any standard of physical fitness to which employees must conform, and it has been said that the statute is not designed to cover only those without spot or blemish but all who work, whether they be by nature neurotic or otherwise unstable and prone to suffer from disease complications in the event of injury, so long as the injury is a substantial contributing cause of the condition in question.

The human family is prone to suffer from various ailments, one will have a weak heart, another weak lungs, another disordered eyes, another diseased kidneys or liver and numerous other diseases among them being syphilis. This disease plays an important part in many compensation cases. It has led to large compensation expenditures by the employer. It has been known to delay the healing of a wound, the union of fractures and often results in paralysis, insanity, blindness and other disability. In a case before the commission, the employee fell a distance of twelve feet to the base of an elevator shaft, injuring his head

* Read in the Symposium on Syphilis at the 75th Annual Meeting of the Missouri State Medical Association, Jefferson City, May 23-26, 1932.

and shoulders. An examination disclosed that the injured was suffering from syphilis. At the date of hearing the employee was totally disabled and recovery was doubtful. The neurologist testified that a blow on the head might aggravate a condition of syphilis, that is, one with syphilis receiving a blow on the head is more subject to develop delirium from concussion than one without syphilis. The commission found that this employee was permanently and totally disabled and awarded compensation at the rate of $66\frac{2}{3}$ per cent of his average weekly wage for 300 weeks and 25 per cent of his average weekly wage thereafter for life.

In another case the claimant was employed as a carpenter. A heavy timber fell striking him on the head resulting in a frontal fracture of the skull. On account of a preexisting syphilitic disease recovery was doubtful and compensation was awarded.

In a third case the employee was in the act of entering an elevator. The elevator started upward, carrying the employee to the ceiling of the first floor, then dropped employee to the basement. The examination showed four plus Wassermann. The urologist reported patient suffering from an enormously advanced hydro-nephrosis complicated by ptosis of the left kidney. The advisability of the removal of the kidney was in question, there being some doubt as to the success of the operation owing to the advanced syphilitic condition. Operation was offered but the employee refused to accept and a compromise settlement was made.

In a fourth case an employee fell injuring her back. A mass formed on the left side. The patient unquestionably had syphilis as evidence by the four plus Wassermann. The physician's report read: "Unquestionably the accident had something to do with the condition because it occurred at the site of the injury and there is nothing else but syphilis which would explain this. One also knows that syphilis is likely to attack a point of injury in the body when it is even dormant or quiescent otherwise."

These four are outstanding examples of the presence of syphilis in compensation claim.

The commission has passed upon thousands of compensable injury cases. The number of cases in which syphilis has played a part is difficult to determine. Because of the social stigma that is attached to the disease, physicians seldom note syphilis in their report. However, the true physical condition with respect to venereal disease is reported more frequently now than in the past, for the reason that by the provision of the law the privilege

of the physician with respect to the physical condition of the patient is somewhat modified. "The testimony of any physician who treated the employee shall be admissible in evidence in any proceedings for compensation under the Act, and every hospital or other persons furnishing the employee with medical aid shall permit its records to be copied by and shall furnish full information to the commission, the employer, the employee or his dependents and any other party to any proceeding for compensation under the Act, and certified copies of such records shall be admissible in evidence in any such proceedings." The privileged position of the physician to the patient is no doubt modified for the reason that the law regards the medical aid furnished the employee as much a part of his compensation as $66\frac{2}{3}$ per cent of his average weekly wage. The law provides that in addition to all other compensation the employer shall provide medical, surgical, hospital, etc., to relieve and cure from the affects of the injury, not exceeding in amount the sum of seven hundred and fifty dollars in the first ninety days. Thus it is seen that the legislature regarded medical aid as a part of compensation when they use the words "in addition to all other compensation." The physician will bear in mind that his service and skill is a part of the injured man's compensation. We are inclined to think of the benefit to the employee only in dollars and cents that he actually receives when speaking of compensation, but it is more a question of rehabilitation than of economic compensation, therefore when an injured employee has a preexisting syphilitic condition that retards his recovery from injury or when the injury aggravates or accelerates the syphilitic condition it is a duty of the physician to treat the patient with a view to arresting the syphilis. It is evident that the consequences of a disability or fatal injury are precisely the same to the parties immediately affected, whether it be the direct result of trauma or an aggravation or acceleration of a preexisting condition by trauma. It may seem unjust to insist that the employer or his insurer be required to furnish medical aid to relieve and cure from the effects of the injury in all cases but we must bear in mind that the whole scheme of compensation is to charge upon the business through insurance the loss caused by it, making the business and the ultimate consumer of the products and not the injured employee bear the burden of the accident incident to the business. Also, the employee sacrifices one-third of his salary when an injury occurs and, furthermore, the law of nature decrees that the

physical suffering must be borne by the employee alone; he cannot evade it nor shift it to another and the statute makes no attempt to compensate him for pain and suffering.

We must not overlook the fact that society is interested in the health and happiness of the individual as affecting the common welfare. In *Holden vs. Hardy*, 169 U. S. 366, the Court said: "The whole is no greater than the sum of all the parts, and when the individual health, safety and welfare are sacrificed or neglected the state must suffer. Another ground for public concern with the continued life and earning power of the individual is its interest in the prevention of pauperism with its concomitant of vice and crime." Therefore, we say to you that when an injured employee is suffering from syphilis or any other disease that retards his recovery from injury, give him the proper treatment so that he may be restored as nearly as it is possible to normal health. In other words, rehabilitate as well as compensate. It is your duty, it is your responsibility and it is ours.

1225 Board of Trade Building.

PRESENCE OF SYPHILIS IN COMPENSATION CASES FROM THE STANDPOINT OF THE PHYSICIAN *

PAUL F. STOOKEY, M.D.

KANSAS CITY, MO.

The legal aspects of syphilis are numerous, complex, and, to physicians, difficult of interpretation. This is not surprising when we, as physicians, consider the fact that a given individual infected with syphilis may behave in a most unusual and occasionally disconcerting manner. In the face of this well known protean nature of syphilis, it is difficult to establish an orderly sequence of events and behaviors as a fact. An opinion as to the subsequent behavior of a given syphilitic may, of course, be offered.

The much discussed problem of the State's ability to restrain or quarantine the infected individual who may disseminate syphilis during the early stages of his infection is a public health question with numerous associated legal problems. Syphilis brought to an innocent matrimonial partner may be grounds for divorce. Many states place syphilis on the list of reportable diseases. In spite of the legal and moral prophylactic measures used to combat the spread of syphilis, the frequency with

which the dispensary physician encounters some clinical manifestation of syphilis is mute testimony that our moral and legal prophylactic measures are inadequate to protect the promiscuous individual from syphilis.

The problem of syphilis and the workmen's compensation is now brought to the foreground by the Workmen's Compensation Act, a comparatively new statute in Missouri. In this court the problem of syphilis and its relation to traumatic injury is ever present. In assuming to discuss the problem of syphilis and traumatic injuries it is understood that complete ignorance of the law is frankly acknowledged and the subsequent remarks are those of a physician without conception of the legal aspects involved. When syphilis is present and is or may be a factor in an industrial injury the courts generally find aggravation as a result of the trauma plus syphilis. This is in contrast to military tribunals who, with certain exceptions, consider syphilis as a misconduct disease not in line of duty and punish the individuals who are so unfortunate as to contract the disease. Record of exposure and a prophylactic treatment give immunity to punishment if syphilis is contracted. The medical opinion in civil courts is frequently sharply divided and wide divergence of competent opinions may conscientiously exist. A sharp blow may be followed by an extensive gumma. Trauma is frequently followed by an overactivity on the part of the periosteum in the involved area and syphilitic periostitis develops. A study of the roentgen ray films will frequently reveal the syphilitic nature of bone lesions. A consideration of the serologic reaction and, above all, the therapeutic test will generally suffice in a short time to establish the fact that these lesions, developing as a sequence to trauma, are active manifestations of syphilis initiated by some antecedent trauma. Joint injuries, or even early examples of Charcot's joint, may be encountered and prove perplexing. In my judgment, the therapeutic test is the court of last resort in the establishment of the diagnosis of syphilis in obscure cases. In neural degenerations, such as optic nerve atrophy and degeneration of the auditory nerve occurring in workers in heavy metals, i. e., lead workers, a coexisting syphilis makes separation of the component parts of the etiologic factors with any considerable degree of accuracy, difficult or impossible. Traumatic injuries to the eye may be followed by an activation of an old syphilis with disastrous results and obvious perplexing legal difficulties. All in all, the finding of aggravation, so frequently held by legal authorities in compensation cases, is per-

* Read in the Symposium on Syphilis at the 75th Annual Meeting of the Missouri State Medical Association, Jefferson City, May 23-26, 1932.

haps as near as it is humanly possible to administer justice.

It is an evident fact that the employer who employs a syphilitic individual experiences a greater hazard from a compensation standpoint than an employer whose employees are free from syphilis, or whose syphilis is influenced by judicious treatment.

902 Argyle Building.

DISCUSSION

DR. SINCLAIR LUTON, St. Louis: I would like to supplement what Dr. Middleton would have brought out had time permitted about the treatment of cardiovascular syphilis. In the first place, they come in the years when there is probably associated arteriosclerosis and, as the Doctor has pointed out, chronic inflammation of the aortic valve with regurgitation and obstruction of the mouth of the coronary artery which interferes with the nourishment of the heart muscle. These cases as a rule do not show auricular fibrillation. With digitalis you can overcome this to a certain extent. If the congestive failure symptoms however are present, dyspnea, slight edema of the ankles, etc., the usual remedies do not work as well as, for instance, in a rheumatic mitral lesion. We get some results from digitalis, but one, one and a half to two years usually marks the end of these cases after the congestive failure symptoms have become evident.

DR. C. A. STONE, St. Louis: It is certainly interesting to see the change that has taken place in the discussion of syphilitic lesions since I began to notice such things, around twenty years ago. If twenty years ago one had said that a gumma had been produced in an individual by a blow, a great many would have thought him distracted, and certainly no lawyer would have been interested. But this morning you find that practically every speaker is thoroughly convinced that trauma does have a great deal to do with it.

I would like to speak particularly of one or two cases in bones, joints and muscles, and to emphasize particularly that not infrequently a syphilitic lesion of the bone may be mistaken for malignancy. I have seen instances where patients had been advised to have the ulna removed because a syphilitic lesion of the bone had been taken for sarcoma. One patient had been advised to have his radius removed. He refused and fortunately it was found not to be malignant. He was given salvarsan and today has a good arm and is working. When I was a student Dr. C. demonstrated a case which had been operated on and microscopic section showed carcinoma. He impressed upon us particularly that this individual got well on antisyphilitic treatment.

I want to impress upon you that not infrequently cases of synovitis for which we are unable to find the cause are due to syphilis. These individuals will show a positive Wassermann reaction taken upon fluid aspirated from the joint. Not long ago I saw a boy with two lesions, one at the back of each knee. With inflammation and fluid in the capsule back of each knee joint, I had a hunch. This boy's Wassermann test was positive and both parents had positive Wassermann. There are times also when, notwithstanding the negative Wassermann, if we give specific treatment the patients get well.

DR. WM. S. MIDDLETON, closing: I would like to take the opportunity in closing to say that in the matter of therapy it is perfectly apparent that we

should not initiate arsenicals in a case of syphilitic aortitis without preparation by mixed treatment (iodides and mercury). So far as decompensation is concerned, I would call attention to the necessity for avoidance of mixed treatment and arsenicals until the patient is well over the period of decompensation. There is however, some justification for the belief that, if we could with impunity use the spirocheticidal drugs, it might be possible to go farther than we do today because of adverse reactions such as the Herxheimer and the therapeutic paradox.

In regard to treatment for decompensation, I wish to refer to three or four cases above cited. The second individual, now thirty-four months since first seen, has had three periods of congestive failure and has been brought back to a state of relative comfort by the ordinary measures used for congestive failure, digitalis, bed rest and diet being the main ones. The third case had five returns in a period of one year and was brought back to relative comfort. The fourth case in two years had four such periods of decompensation and after each there was a return to relatively good compensation. In other words, instead of the pessimism of the last decade I would like to bring a ray of optimism into the picture with the possibility that these cases may come back, the ability to come back and regain a measure of relatively good compensation depending upon the integrity of the myocardium. It is perfectly apparent that if the myocardium is grossly affected with sclerosis and syphilitic involvement of the coronary orifices, there will be no response. Aside from that, I think we might give a reasonably favorable prognosis. In the last analysis we must keep an open mind.

DR. E. S. SMITH, Kirksville: Do I understand, Mr. James, that a claimant who applies to the compensation commission waives the right of privileged communication?

MR. J. J. JAMES, closing: The patient waives the right. What we want is the entire information whether it is in his favor or not. If we refuse to permit his doctor to testify I do not know how we could arrive at a conclusion in these cases.

DR. CHARLES C. DENNIE, closing: In speaking of the action of the malarial parasite I did not dwell upon the effect it has upon the central nervous system. In cases of paresis in children malarial therapy has some value, but nearly all these children either die or become permanent mental defects. In spite of all treatment in cases of tabes the results are a little better; in about 40 per cent of cases we secure after a time, and with subsequent treatment, improvement in the cerebrospinal fluid, but even these results are not what we should like them to be. In cerebrospinal meningitis of syphilitic origin the results of malarial therapy are somewhat striking. In practically 90 per cent of these cases, with subsequent treatment, we secure a negative serological result upon the cerebrospinal fluid.

Dr. Lewellys F. Barker explains in *Hygeia* how it happens that each individual is different from another. Since no two fertilized egg cells, even from the same parents, except perhaps in the case of identical twins, are ever precisely alike at the start, and no two developing human beings are ever exposed to precisely the same series of environmental influence, each human being is a unique individual, differing somewhat from any other living person, and should be considered as such.

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EDITORIALS

CONTRACT PRACTICE

A well organized and sincere gesture toward the solution of some of the problems that confront the practitioner of medicine through the rapid growth of uncontrolled, ungoverned and undirected contract practice was made at the Annual Conference of Secretaries of constituent state medical associations at Chicago, November 18.

There is no need at this time to discuss the evil influences of many forms of contract practice; they are self-evident in many instances; others are insidious and on the surface seemingly innocent of disharmony with the welfare of the patient, the public and the physician.

The variety of contracts ranges from the fifty cents per month per family to the recently inaugurated policy of the Federal Government of rendering free hospital and free medical and surgical service to veterans with nonservice disabilities.

With Dr. A. R. Mitchell, president of the board of trustees of the American Medical Association, presiding, the conference heard addresses by Dr. E. H. Cary, president of the association, Dr. William A. Pusey, former president, Dr. George E. Follansbee, chairman of the Judicial Council, Dean Lewis, president-elect of the association, and Dr. R. G. Leland, director of the Bureau of Medical Economics.

A vast quantity of data on the problem has been collected by these and other officers of the American Medical Association and were presented to the conference. The time was too short to do much more than discuss some of the major evils and suggest possible remedies. Manifestly, curative regulations applicable to all phases of contract practice could not be developed at this short session. It will take time, much time, patience and wise counsel to harness this wild beast in the medical field, aptly termed by Dr. Follansbee this "octopus of medicine,"

train it and force it to obey the Principles of Medical Ethics. Only thus can the evils of contract practice be eradicated and the system made harmonious with the dictum of the Judicial Council that, "A fundamental of medical ethics is that anything which in effect is opposed to the ultimate good of the people at large is against sound public policy and therefore unethical."

In the discussion it was clearly manifest that the solution of this problem does not lie in the headquarters of the American Medical Association. That body cannot assume a dominating dictatorial attitude and issue mandates to its members on a question of this nature. It can inform and advise. After that it can say whether an act is ethical or unethical.

Acting upon this plan the American Medical Association will submit all the data in abbreviated form to the constituent state and component county societies for their guidance in solving the contract practice problem in their counties.

PHYSICIANS AND HOSPITALS UNPAID FOR EMERGENCY SERVICE

Physicians and hospitals have a new foe to fight in collecting fees for services rendered to persons presumably fully able to pay. We refer to injuries sustained by persons in the numerous automobile accidents on the highways that require medical service and hospitalization. Complaints are becoming increasingly numerous from hospitals and physicians that the injured persons fail to pay for the service rendered them.

This condition is felt not only by American practitioners for the subject was one of serious discussion at a recent meeting of the British Medical Association in London and a movement was proposed to urge the English Government to assume responsibility for the payment of emergency medical and hospital service in road accidents. The American Bar Association at its meeting in Washington last October advocated uniform state legislation fixing the financial responsibility and penalties of motor vehicle drivers. In an address before the Interstate Postgraduate Association at Indianapolis last October Dr. John J. Moorhead, professor of surgery of Columbia University, declared that Saturday and Sunday road accidents were ruining small community hospitals. "When accidents occur," he said, "the patients are rushed to the small hospital where all its facilities are taxed in giving aid to the injured. Usually the patients are removed soon afterward and the hospital receives no fee for its work. This expense should be a part of a state's road or gasoline tax."

This subject is being considered by our Committee on Public Policy with a view of introducing in the next session of the legislature a bill to make the charge for emergency medical and hospital service a lien upon the indemnity paid by insurance companies to policy-holders covering the damage sustained in road accidents. If this law can be passed the hospital and physician will receive their fees for services rendered before the insurance company can pay to the policy-holders the amount claimed for damages.

Other forms of protecting the physician and the hospital have been proposed and perhaps an awakened public may cooperate with us in the effort to protect these public servants from undue loss in restoring to good health persons who require emergency service as a result of road accidents.

HONORABLE MENTION FOR ST. LOUIS

St. Louis ranked third in honorable mention among twelve competing cities of 500,000 population or more in the health conservation contest sponsored by the Chamber of Commerce of the United States and the American Public Health Association during 1931. Milwaukee was awarded first prize. The other cities receiving honorable mention are Baltimore, Detroit, Philadelphia and Pittsburgh.

While the result of the contest is gratifying to any city receiving recognition, it also serves as a constructive criticism of the city's health activities. The standards set up in the contest are the ideal attainments possible for the ultimate goal but practically unattainable in all respects by any large city. However, comparison with an ideal gives an excellent estimate of the status of a community's health conditions. St. Louis was found deficient in ten respects, as follows:

1. Milk consumption is less than one pint per capita per day and 1 per cent of the milk supply is not pasteurized.

2. Diphtheria immunization of preschool and elementary school groups is lower than the standard.

3. Professional visits to school children in homes in connection with cases of communicable disease, tuberculosis cases, infant cases and preschool cases do not meet standards set by the association.

4. Less than 2 per cent of the total population is given adult periodic health examinations.

5. The typhoid fever rate is above the minimum reasonable rate of 1 for each 100,000 population.

6. The diphtheria rate is above the minimum reasonable rate of 1 for each 100,000 population.

7. The tuberculosis death rate is high and shows no reduction under the average for the preceding five years.

8. The infant and maternity mortality rates are above the minimum reasonable rates.

9. The diarrhea and enteritis death rate is slightly higher than the minimum reasonable rate of 10 for each 100,000 population.

10. The expenditures for public health are below the reasonable standard of \$2 per capita.

The city was commended for its organization of a health and hospital council, its industrial health campaign, its meat inspection ordinance, its Negro health week and survey and its sight-saving classes. Other features pronounced as satisfactory were the water supply and garbage disposal systems, smallpox preventive measures including 100 per cent immunization of public school children; medical examination and health instruction in the public schools, tuberculin testing of dairy cows and certification of raw milk, professional visits to prenatal cases, health promotion through medical conference and diagnostic and treatment clinics and absence of deaths from smallpox.

St. Louis was entered by the St. Louis Chamber of Commerce and data on which the entry was based was compiled by Max Kaufman, assistant health commissioner, and by the St. Louis Health and Hospital Council.

NEWS NOTES

Dr. Logan Clendening, Kansas City, addressed a lay audience in Chicago, November 9, under the auspices of the Chicago Medical Society. He spoke on "Traditions of the Family Doctor."

Dr. Richard L. Sutton, and Dr. Sutton, Jr., of Kansas City, presented "Snapshots from the Arctic," illustrated by lantern slides and moving pictures, before the Jackson County Medical Society, November 29.

Dr. August A. Werner, St. Louis, was the guest of the Alton (Illinois) Medical Society November 10. He addressed the society on "The Anterior Lobe Pituitary in Relation to Growth and Sexual Development."

Dr. J. Curtis Lyter, St. Louis, was a guest at the fall clinic of the Cole County Medical Society, Jefferson City, November 3. Following a dinner at 6 p. m., Dr. Lyter delivered an address on "Pathological Physiology of Congested Heart Failure."

Dr. W. T. Coughlin, St. Louis, delivered an address on "The Teaching of Surgery to Undergraduates" at the forty-third annual meeting of the Association of American Medical Colleges, held in Philadelphia, November 14, 1932.

Mrs. W. L. Wysong, Liberty, wife of Dr. Wysong, became coroner of Clay County as a result of the November election. Mrs. Wysong is the only woman coroner in Missouri and probably in the United States. She was her husband's assistant during two terms which he served as coroner.

St. Mary's Dispensary, St. Louis, is cooperating with the St. Louis Aid Society by giving free and complete outpatient care to motherless children who are under the care of their fathers. Children who are not receiving follow-up care as advised in physical examinations in schools will be referred to the dispensary.

Drs. Amand Ravold and R. B. H. Gradwohl, St. Louis, addressed the members of the Randolph County (Illinois) Medical Society at a meeting in Chester, Illinois, November 17. Dr. Ravold spoke on "Malaria: Its Treatment With the New Synthetic Derivatives." Dr. Gradwohl spoke on "The Schilling Method of Blood Staining."

Dr. Vilray P. Blair, St. Louis, was elected to honorary membership of the Society of Plastic and Reconstructive Surgery at the annual meeting of the Society held at the New York Academy of Medicine, New York City, October 28. Others elected to honorary membership are Dr. Erich Lexer, Munich, and Dr. Victor Vau, Paris.

Drs. R. L. Sante and Hugo Ehrenfest, St. Louis, were guests of the Oklahoma City Clinical Society at the annual fall clinical conference held in Oklahoma City, October 31 to November 3. Dr. Sante delivered an address on "Roentgenographic Detection of Lung Infection" and Dr. Ehrenfest spoke on "Birth Injuries; Pregnancy Complicated by Disease."

Dr. O. Jason Dixon, Kansas City, was the guest of honor at the November meeting of the Dallas Academy of Ophthalmology and Otolaryngology in Dallas, Texas. He conducted a full day clinic before over a hundred guests and members and presented two papers, "Vascular Complications Secondary to Dental Infections" and "Acute Infection of the Head and Neck."

The Association of Assistant Physicians of Eleemosynary Institutions in Missouri met in Fulton, October 24, at the State Hospital. In the evening a joint meeting was held with the Callaway County Medical Society, at which Dr. August A. Werner, St. Louis, the guest of the association, delivered an address on "The Anterior Lobe Pituitary in Relation to Growth and Sexual Development."

Dr. P. T. Bohan, Kansas City, has been elected president of the Kansas City Southwest Clinical Society. Other officers elected are: Dr. M. J. Owens, vice president; Dr. H. S. Valentine, treasurer; Dr. E. C. Padgett, director of clinics; Dr. R. R. Wilson, associate director of clinics; Dr. R. L. Diveley, editor of the society's bulletin, all of Kansas City, Missouri. Dr. L. G. Allen, Kansas City, Kansas, was elected secretary.

Dr. W. W. Johnston, Cape Girardeau, began his duties as assistant health commissioner of the State of Iowa on November 15. Dr. Johnston was deputy state health commissioner in Missouri and was in charge of the St. Francois County Health Unit from May, 1925, until its discontinuance in July, 1931, and later supervised the health work in district No. 5 of the Federal district relief division with headquarters in Cape Girardeau.

Dr. Ernest Sachs, St. Louis, sailed November 11 for Honolulu where he will initiate a postgraduate course in specialized medicine and surgery under the auspices of the Honolulu Medical Society. Dr. Sachs will hold a two-weeks clinic in surgery of the brain and spinal cord and deliver lectures before the physicians of the Island of Kauai. Specialists in other branches of surgery and medicine will be invited to the Hawaiian Islands to demonstrate the latest scientific methods as applied to their particular specialties, thus continuing the policy inaugurated by the course given by Dr. Sachs.

The fifty-sixth annual meeting of the Southeast Missouri Medical Association convened at Fredericktown, October 11 and 12. About eighty members were present and a number of guests from other sections of the state were in attendance. Scientific sessions were held both mornings and afternoons. In the evening of the first day a banquet was served at which Dr. G. W. Vinyard, Jackson, the only living charter member of the association, acted as toastmaster. Dr. E. J. Nienstedt, Blodgett, delivered the presidential address at the evening session.

Cape Girardeau was selected as the next place

of meeting. Officers elected are: President, Dr. W. S. Love, Charleston; vice president, Dr. Charles E. Fallet, De Soto; recording secretary, Dr. E. Charles Rolwing, Charleston; corresponding secretary, Dr. J. D. Van Cleve, Malden, treasurer, Dr. Paul Baldwin, Kennett.

The following articles have been accepted for New and Nonofficial Remedies:

Lederle Laboratories

Solution Liver Extract (Lederle) for Oral Use

Parke, Davis & Co.

Diphtheria Toxin Diluted for Schick Test

Diphtheria Toxoid, 30 c.c. vial hospital packages

The following articles have been included with the List of Articles and Brands Accepted by the Council But Not Described in N. N. R. (New and Nonofficial Remedies, 1932, p. 487): Smith Oil & Refining Company

Smith's Mineral Oil

The December monthly clinic of the Kansas City Southwest Clinical Society will be held at St. Mary's Hospital December 13. The guest speaker will be Dr. A. W. Adson, Rochester, Minnesota, professor of surgery, University of Minnesota Graduate School of Medicine, who will hold a clinic on neurological surgery. Dr. Adson will be the guest of the Jackson County Medical Society in the evening and will discuss "Trigeminal Neuralgia: Differential Diagnosis and Treatment." The November clinic of the society was held at Menorah Hospital November 15, when Dr. J. J. Singer, St. Louis, associate professor of medicine Washington University School of Medicine, was the guest speaker. Dr. Singer demonstrated the new pneumothorax machine at this clinic. In the evening he spoke on "The Diagnosis and Treatment of Tumors and Cysts of the Thorax" before the Jackson County Medical Society.

The United States Civil Service Commission announces open competitive examinations for medical and social service statisticians.

Applications must be on file with the United States Civil Service Commission at Washington, D. C., not later than December 13, 1932. The examination is to fill a vacancy in the United States Veterans' Administration, Hines, Ill., and vacancies occurring throughout the United States in positions requiring similar qualifications. Applicants will not be required to report for examination at any place but will be rated on their education and experience and on writings to be filed with applications. Applicants must have been graduated from a col-

lege or university of recognized standing with at least one hundred and eighteen semester hours of college work including at least thirty hours' credit in statistics or social service work, or in both combined, and must also have had certain experience. Full information may be obtained from the secretary of the Civil Service Board of Examiners at the post office or custom-house in any city or from the United States Civil Service Commission, Washington, D. C.

Missouri physicians took an active part in the program of the Southern Medical Association which was held in Birmingham, Alabama, November 15 to 18. Dr. G. D. Royston, St. Louis, delivered an address at one of the general clinical sessions on "The Role of the Cervix in Obstetrics and Gynecology." At the session on gastroenterology, Dr. Frank D. Gorham, St. Louis, spoke on "Clinical Aspects of Diverticulitis of the Colon." Dr. M. Pinson Neal, Columbia, presided over the section on pathology and delivered the chairman's address on "Primary Intrathoracic Malignant Tumors," and Dr. E. V. Cowdry, St. Louis, spoke before the same section on "The Microchemistry of Intranuclear Inclusions Caused by Yellow Fever Virus." Drs. Roland M. Klemme and Albert Kuntz, of St. Louis, delivered addresses before the section on neurology and psychiatry. Dr. Klemme spoke on "Tumors of the Spine Affecting the Cord that Respond to Deep Roentgen Ray Therapy," and Dr. Kuntz spoke on "The Role of the Autonomic Nervous System in Affective Disorders." Dr. P. F. Titterton, St. Louis, spoke before the section on radiology on "The Value of Serial Roentgen Ray Examination in Pulmonary Tuberculosis." Dr. C. H. Crego, St. Louis, appeared before the section on bone and joint surgery and spoke on "Preliminary Skeletal Traction in the Treatment of Congenital Dislocation of the Hip." "The Bacteriological Study of Urinary Infection in Pregnancy and the Puerperium with Special Reference to the Use of Pyridium" was the subject of an address delivered by Dr. T. Kenneth Brown, St. Louis. Dr. Nelse F. Ockerblad, Kansas City, conducted a clinic for the section on urology. Opening discussions at the meeting were Drs. Bransford Lewis, J. Albert Key, G. V. Stryker, David P. Barr and R. A. Woolsey, of St. Louis.

The following speakers responded to invitations from the Postgraduate Committee of the State Association to deliver addresses at recent meetings of component county medical societies:

Drs. F. R. Teachenor and E. G. Marks, of Kansas City, were the guests of the Nodaway

County Medical Society at Maryville, September 9. Dr. Teachenor spoke on "Brain Tumors" and Dr. Marks read a paper on "The Importance of Early Diagnosis in Bladder Neck Obstruction." On October 14 Dr. Joseph B. Cowherd, Kansas City, was the guest of the Society at Maryville and spoke on "Thymic Disturbances in the New-Born."

The Five County Medical Society had as its guests at Kennett, September 15, Drs. R. S. Weiss and L. H. Jorstad, of St. Louis. Dr. Weiss addressed the members on "Skin Cancer," and Dr. Jorstad spoke on "Cancer of the Lip."

On October 12, the Johnson County Medical Society had as its guest at a meeting in Warrensburg Dr. Lindsay L. Milne, Kansas City, who spoke on "Arthritis."

Dr. George H. Hoxie, Kansas City, was the guest of the Jasper County Medical Society at Joplin, October 18, and spoke on "The Diagnosis of Cardiac Arrhythmias." On September 27, Dr. Hoxie was the guest of the Lafayette County Auxiliary at Lexington and spoke on "Tuberculosis," and on November 9, he addressed the members of the Caldwell-Livingston County Medical Society at Chillicothe on "Tuberculosis."

At the November 1 meeting the Jasper County Medical Society had as its guest at Joplin Dr. E. Kip Robinson, Kansas City, who spoke on "Pathology and Treatment of Cancer of the Cervix Uteri."

Dr. William E. Sauer, St. Louis, was the guest of the Marion County Medical Society at Hannibal on November 4 and spoke on "Common Colds and Sequelae."

OBITUARY

ELMER P. BLANKENSHIP, M.D.

Dr. E. P. Blankenship, Houston, Missouri, a graduate of the St. Louis University School of Medicine, 1909, died of cirrhosis of the liver and complications July 9, aged 56.

Dr. Blankenship was born in Houston and spent his boyhood there. He preceded his medical studies by a course in pharmacy and at the death of his father he succeeded as proprietor of Blankenship's Drug Store at Houston and combined that work with his practice of medicine.

Dr. Blankenship served in the medical corps in France during the World War attaining the rank of captain. After the war he returned to his practice in Houston.

Until the last few years when his health began to fail Dr. Blankenship was active in organ-

ized medicine. He was president of the Texas County Medical Society in 1920, 1924, 1925 and 1926 and was alternate delegate to the State Meeting in 1920. He was active in lodge work and in business. Besides his practice of medicine and his drug business, he was president of the Ozark Casket Company.

Always a public spirited citizen his influence in the community was great. He was strong in his likes and dislikes but generous to a fault. He will be greatly missed in all avenues of community life.

He is survived by his widow, Mrs. Meta Stone Blankenship, a sister and an aunt.

JAMES WILLIAM BRUTON, M.D.

Dr. James William Bruton, Springfield, a graduate of Barnes Medical College, 1893, died at his home May 30, aged 63.

Dr. Bruton was a member of one of the pioneer families of the Ozarks. He was born in Sparta, Missouri, and after finishing his medical education began his medical practice there. After nine years he moved to Ozark where he continued his practice until 1921 when he was appointed superintendent of the Missouri State Sanatorium at Mount Vernon. After serving four years he was transferred to the State Hospital at Nevada where he served for ten and a half years as superintendent. He resigned from this position because of failing health.

Dr. Bruton was both servant and friend to his patients, a true patriot to his community and an untiring worker, whatever the task might be. He had a host of friends throughout the southwestern part of the State who sorrow over his death.

He is survived by his widow, Mrs. Pearl Bruton, and one son.

HOWARD CARTER, M.D.

Dr. Howard Carter, St. Louis, a graduate of the Beaumont Hospital Medical School, 1893, (now St. Louis University School of Medicine) died at his home November 4 after an illness of one year, aged 74.

Dr. Carter was born in Monkstown, Ireland. Coming to the United States with his parents in 1875 he received his premedical education in Boston where his parents located on arriving in this country. After graduating from the Roxbury (Massachusetts) High School he spent ten years of his career as traveling representative of a Boston dry goods company. After receiving his medical diploma he interned for one year in the St. Louis City Hospital and later studied postgraduate work at Johns Hopkins Medical School.

The recent and much lamented death of our beloved Dr. Howard Carter impels us to pause and recount some of his medical activities and some of his characteristics.

Dr. Carter was well and favorably known and much loved by his fellow members of the St. Louis County Medical Society and was held in high regard by the citizens of his acquaintance. He was a staunch believer in and a conscientious disciple of that high order of medical ethics foundationed on the Hippocratic Oath adopted by the American Medical Association and tempered by the Mosaic Decalogue and the Golden Rule. He was affable by nature and counted it his greatest delight to do a kindness to a friend. He was an ardent investigator and a worshiper at the shrine of truth. In the depths of his studies he would seem oblivious to self interests addressing himself wholly to suffering humanity.

He resided in Webster Groves for many years and during that time he was an active and valued member of the St. Louis County Medical Society which he served in every conceivable capacity faithfully and well. He was deeply interested in tuberculosis and was one of the early pioneers in promulgating the importance and feasibility of educating the laity in the prevention and care of tuberculosis.

While milk inspector of St. Louis City from 1900 to 1904, he presented microscopic findings and other data on tuberculosis to the St. Louis Medical Society which had a telling effect in carrying the gospel of prevention and care of tuberculosis to the laity. While a resident of Webster Groves he caused to be assembled various mass meetings which were addressed by authorities on the prevention of tuberculosis while he himself presided over and directed the meetings with purpose and vigor.

He was a member of the staff of the Veterans' Hospital at Jefferson Barracks from 1918 to 1928. In the latter year he suffered from a severe injury to his arm that incapacitated him for surgical work.

Dr. Carter was devoted to his profession and to the ideals and purposes of organized medicine but he found leisure to indulge in pursuits other than practicing medicine. He found pleasure in photography and was widely known for his meritorious work in this field. He was also an ardent student of classical literature. Dr. Carter was a prominent figure in Masonic circles holding the thirty-second degree. He was a member of the St. Louis Medical Society, Missouri State Medical Association, and a Fellow of the American Medical Association. He also held membership in the Missouri Photographic Society, the American Legion and the National Sojourners. Dr. Carter never married. He is

survived by a brother, three nieces, and two nephews.

The boasts of heraldry, the pomp of power,
And all that beauty, all that wealth ere gave,
Await alike the inevitable hour:
The paths of glory lead but to the grave.

These striking sentiments are beautifully phrased, but let us cling to the Longfellow dictum that "The grave is not the goal" and that the good works initiated by our good friend will go on and on.

L. W. CAPE

REINHARD S. WOBUS, M.D.

Dr. Reinhard S. Wobus, St. Louis, a graduate of Washington University School of Medicine, 1905, died of nephritis in the Veterans' Hospital, Jefferson Barracks, Missouri, November 3, aged 53. He had been in declining health for several years suffering from a sinus infection which grew out of an attack of influenza contracted during the World War.

Dr. Wobus was the first roentgenologist at the Washington University School of Medicine, becoming efficient in the specialty through independent research. He was later pathologist at the university for several years, relinquishing that post about six years ago.

During the World War he was attached to Base Hospital No. 71 in France with the rank of captain. After the armistice he served with the Interallied Commission in Berlin with the Medical Reserve Corps with the rank of major.

Dr. Wobus was an active member of the St. Louis Medical Society and the State Association and was a fellow of the American Medical Association. He was a charter member of the American College of Surgeons and a member of the St. Louis Surgical Society. He was a member of the American Legion and was prominent in Masonic affairs.

He is survived by his widow, Mrs. Dora L. Wobus, a daughter and a son.

MORTALITY FROM ABSCESS OF BRAIN

On the basis of his observations in fifty-one verified cases of abscess of the brain, Francis C. Grant, Philadelphia (Journal A. M. A., Aug. 13, 1932), makes an attempt to determine the influence on the mortality from this condition of the following factors: difficulty in diagnosis and localization, time of treatment and method of treatment. His conclusions are as follows: 1. Brain abscess is not more difficult to diagnose and localize than any other intracranial lesion, provided sufficient care is taken in the study of the case. 2. A brain abscess should not be drained until it seems certain that encapsulation has occurred, preferably in the sixth week after the onset of symptoms. 3. Drainage by a small rubber tube has given satisfactory results. No matter what method is used, unnecessary trauma to surrounding tissue is to be scrupulously avoided.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL FOR 1932

(UNDER THIS HEAD WE LIST SOCIETIES WHICH
HAVE PAID DUES FOR ALL THEIR MEMBERS)

HONOR ROLL

Ste. Genevieve County Medical Society,
December 16, 1931.

Miller County Medical Society, Decem-
ber 23, 1931.

Mercer County Medical Society, Decem-
ber 24, 1931.

Camden County Medical Society, January
5, 1932.

Johnson County Medical Society, Janu-
ary 20, 1932.

Dent County Medical Society, January 22,
1932.

Macon County Medical Society, February
10, 1932.

Webster County Medical Society, March
21, 1932.

Platte County Medical Society, April 7,
1932.

Pulaski County Medical Society, April 8,
1932.

Schuyler County Medical Society, April
14, 1932.

Ralls County Medical Society, April 22,
1932.

Wright-Douglas County Medical Society,
April 26, 1932.

Barry County Medical Society, May 2,
1932.

Chariton County Medical Society, May
5, 1932.

Benton County Medical Society, August
18, 1932.

Cole County Medical Society, August 26,
1932.

Dekalb County Medical Society, August
29, 1932.

BUCHANAN COUNTY MEDICAL SOCIETY

The regular meeting of the Buchanan County Medical Society was called to order by the president, Dr. A. E. Burgher, St. Joseph, October 19, with thirty-five members present.

The applications for membership of Drs. George Hopson and C. S. Grant were read and referred to the board of censors.

Dr. Owen D. Craig, St. Joseph, having been a provisional member for one year was approved by the board of censors and elected an active member.

A letter from Dr. Paul McGill, St. Joseph, was read asking for a transfer from this Society to the Los Angeles County (California) Medical Society.

Dr. Chris M. Sampson, St. Joseph, announced his intention of opening an office in the near future at Fifth and Edmond streets for the treatment of diseases with physical therapy.

The scientific paper of the evening was presented by Dr. T. L. Howden, St. Joseph, on "Ulcer of the Esophagus." This was a splendid paper and well presented. It was discussed by Drs. J. M. Bell, W. C. Proud, Chris M. Sampson, Charles G. Geiger

and Floyd Spencer, of St. Joseph. The discussion was closed by Dr. Howden.

Meeting of November 2

The Buchanan County Medical Society was called to order by the president, Dr. A. E. Burgher, St. Joseph, with thirty members present.

Dr. T. Harry Saferstein, St. Joseph, was elected to provisional membership in the Society.

Drs. J. H. Ryan and James O'Donohue, St. Joseph, having been provisional members for one year and their applications approved by the board of censors, were elected to active membership.

At the suggestion of Dr. John I. Byrne, St. Joseph, and after discussion by Drs. J. T. Stamey, G. M. Boteler, W. R. Moore, W. T. Elam and J. M. Hughes, of St. Joseph, Dr. W. R. Moore, St. Joseph, moved that the public policy committee take up with the proper officials the matter of county health officers administering diphtheria toxin and antitoxin free to patients who are able to pay for the service and see what can be done to correct this evil.

Dr. W. R. Moore, St. Joseph, presented a paper on "Empyema in Small Children," illustrated by lantern slides. It was discussed by Drs. J. M. Hughes, W. T. Elam, J. T. Stamey, C. A. Good, and the discussion closed by Dr. W. R. Moore.

EMMETT F. COOK, M.D., Secretary.

CASS COUNTY MEDICAL SOCIETY

The Cass County Medical Society met in regular session September 8 at the home of Dr. A. H. Baldwin, Pleasant Hill. A bounteous dinner was served by the Woman's Auxiliary preceding the meeting.

The scientific session consisted of papers by Drs. Nelse Ockerblad and Rex L. Dively, Kansas City. Dr. Ockerblad gave an exceedingly thorough discussion on "The Prostate and Prostatic Hypertrophy."

"Maggots in the Treatment of Osteomyelitis" was the subject presented by Dr. Dively, which was illustrated by lantern slides.

Both papers were discussed by the members.

A large number of members were present.

L. V. MURRAY, M.D., Secretary.

CLAY COUNTY MEDICAL SOCIETY

The Clay County Medical Society met at the Elms Hotel in Excelsior Springs October 27, at 6 p. m. An "Elms Dinner" preceded the meeting. The spacious dining room bore decorations appropriate to the season. Thirty members, wives and guests were seated at the table.

Dr. L. B. Spake, Kansas City, Kansas, member of the Kansas City Clinical Society, addressed the Society on "The Surgical Mastoid."

Dr. B. J. Durham, Excelsior Springs, dental surgeon for the local veterans' hospital, gave an interesting talk on "Fractures of the Mandible."

Dr. Joseph V. S. Dauksys, Excelsior Springs, of the veterans' hospital, spoke on "Digitalis vs. Quinidine in Auricular Fibrillation."

All the lectures were highly instructive and brought the subjects up-to-date. Dr. Spake classified surgical mastoid into five types. Tenderness was not to be relied on as special indication for surgery—but rather the temperature. Dr. Durham exhibited plaster models which forcibly illustrated his method in treating fractures of the jaw. Dr. Dauksys favored quinidine in auricular fibrillation over the time-honored digitalis. Stereopticon and skiagrams emphasized the points brought out.

Dr. H. M. Grace, Chillicothe, visiting his earlier-

day haunts, was a welcome and interested visitor. He made a very pleasing talk in appreciation of the program and spoke of the professional excellence of our Society and its state and national reputation for thoroughness.

J. J. GAINES, M.D., Secretary.

GREENE COUNTY MEDICAL SOCIETY

The first meeting of the Greene County Medical Society following the summer vacation was held September 9 in the Springfield Public Library. The meeting was called to order by the president, Dr. U. J. Busiek, Springfield.

Dr. Forest A. Harrison from Ardmore, Oklahoma, transferred from the Carter County (Oklahoma) Medical Society and Dr. Clarence Jackson Laws, Princeton (Mo.), transferred from Mercer County Medical Society, were elected to membership.

A motion carried to change the time of the meeting from 8:00 to 7:30 p. m.

The program consisted of a discussion of medical economics with special reference to certain public health and legislative matters.

Meeting of September 23

The regular meeting of the Society was held September 23 in the Springfield Public Library. Forty-eight members were present.

A motion carried to suspend the regular order of business in order that Mr. Ralph Langston, city health commissioner, and Mr. Charles L. Challender, assistant prosecuting attorney, could be presented before beginning the regular program. Mr. Langston spoke relative to the present activities of the health department and stated that he was willing to cooperate in every way possible with the Society. Mr. Charles Challender spoke briefly of the duties of the deputy state health commissioner.

Dr. W. P. Patterson, Springfield, of the necrology committee, read a report of the death of Dr. C. W. Russell, Springfield. A motion carried that the resolution be spread upon the minutes of the Society and a copy sent to his widow.

Dr. U. J. Busiek, Springfield, announced that a baby clinic under the sponsorship of several civic groups, would be held in Heer's Store, Springfield, September 26 to October 1, inclusive. A number of members of the Society have volunteered their services.

Dr. J. D. James, Springfield, presented statistics on the work of the Springfield-Greene County Health Unit for the past five or six years. He stressed the need of an assistant county physician to take care of the indigent county patients.

Dr. H. A. Lowe, Springfield, presented a plan for the formation of a public health council as suggested by Dr. Irl B. Krause, Jefferson City, of the United States Public Health Service; also, to send a letter to the county court suggesting the employment of a part-time physician to assist Dr. John Williams, Jr., Springfield, deputy state health commissioner. After some discussion the Society voted against this plan.

Dr. Joseph W. Love, Springfield, spoke relative to the history and activities of the Springfield-Greene County Health Unit which was organized in 1925.

A motion was introduced by Dr. S. F. Freeman, Springfield, and seconded, that the Society endorse the work of the city and county health departments and continue sending a public policy committee to the monthly cooperative meetings of city and county departments with the understanding that the county court appoint an assistant county physician to aid in caring for the indigent county patients. The motion carried.

Meeting of October 14

The Greene County Medical Society met in regular session October 14 at the Springfield Public Library. The meeting was called to order by the president, Dr. U. J. Busiek, Springfield. Forty-two members were present.

All business was ordered suspended to enable the speaker to have ample time for his paper.

The program consisted of a very interesting paper on "Management of the Obstetric Patient, Prenatal, Delivery and Postnatal Care" by Dr. G. D. Royston, St. Louis, professor of obstetrics, Washington University School of Medicine.

Dr. Joseph D. James, Springfield, led the discussion. The subject as presented was practical and all profited by having heard him.

J. NEWTON WAKEMAN, M.D., Secretary.

JASPER COUNTY MEDICAL SOCIETY

The first fall meeting of the Jasper County Medical Society was held at Joplin October 18 with nineteen members and five visitors present. Dr. Jesse E. Douglass, Webb City, president, was in the chair.

The secretary, Dr. O. T. Blanke, Joplin, read a card of thanks from the family of Dr. M. B. Harutun.

The secretary called attention to the condition of one of our members, Dr. W. W. Waggoner, Webb City, who because of age and disability was unable to continue active practice. The secretary was instructed to notify our state secretary that Dr. Waggoner has been placed on the Honor list.

The secretary read an invitation from the Greene County Medical Society to attend a meeting of that Society October 27 at Springfield to hear Dr. F. A. Willis, Rochester, of the Mayo Clinic, discuss heart disease.

There being no case histories the meeting was turned over to Dr. George H. Hoxie, Kansas City, who discussed "Cardiac Arrhythmias." He emphasized particularly the diagnosis and treatment of heart conditions in children of school age. He illustrated his points with case histories and electrocardiographic tracings.

Dr. Jesse E. Douglass, Webb City, introduced the subject of public health work in regard to discovering tuberculosis in children by mass testing with tuberculin. Since Dr. Hoxie is president of the Missouri Tuberculosis Association he was asked to discuss this problem. He summarized by suggesting that this type of mass test, especially of children just entering high school, be used together with a check-up by the public health nurse and further check of those showing positive tests by careful physical examination and roentgen ray.

Meeting of November 1

The meeting of the Jasper County Medical Society was called to order with Dr. J. E. Douglass, Webb City, presiding and Dr. Paul W. Walker, Joplin, secretary pro tem. Ten members and three visitors were present.

A communication from the American Medical Association concerning medical economics was read and the questionnaire filled out from information supplied by those present.

The scientific program of the evening was presented by Dr. E. Kip Robinson, Kansas City, who spoke on "The Pathology and Treatment of Cervical Cancer." The paper was complete, interesting and well presented and illustrated with lantern slides.

The paper was discussed by Dr. J. W. Barson, Joplin, and Dr. H. D. McGaughey, Joplin. Dr. Robinson closed the discussion.

O. T. BLANKE, M.D., Secretary.

MILLER COUNTY MEDICAL SOCIETY

The Miller County Medical Society met at Iberia, October 16. The following officers were elected: President, Dr. G. W. Duncan, Iberia; secretary, Dr. W. A. Von Gremp, Iberia; treasurer, Dr. D. H. Kuns, Tuscumbia; delegate, Dr. G. D. Walker, Eldon. W. A. VON GREMP, M.D., Secretary.

MRS. WALTER JACKSON FREEMAN 1867-1932

Mrs. Walter Jackson Freeman, president of the Woman's Auxiliary to the American Medical Association, after three weeks of illness, died in Philadelphia, October 27, 1932. Funeral services were held in Holy Trinity Church in that city Saturday, October 29. The daughter of a physician, the wife of a physician, the mother of two physicians, the life and interests of Mrs. Freeman were peculiarly closely allied to the medical profession. Her father was the late Dr. William Williams Keen, of Philadelphia, an internationally known surgeon.

Mrs. Freeman was chosen president-elect of the Woman's Auxiliary at the annual session in Philadelphia, June 10, 1931, and assumed the office in New Orleans, May 11, 1932. In her death the Auxiliary has lost an inspiring and able leader, the medical profession an understanding and devoted friend.

While the news of the death of Mrs. Freeman has been known to many of our Auxiliary women in Missouri, yet to others it will come as a surprise and shock. When she was in Missouri in September she seemed well, active, interested and happy in her work. The itinerary for that trip included visits at conventions of auxiliaries with auxiliary or board members in Illinois, Wisconsin, Iowa, Missouri, Kansas, Kentucky, Indiana, Ohio, West Virginia and Pennsylvania. This covered nearly a month of strenuous activity. Concerning her presence in Louisville, Kentucky, on this trip, the *Medical Journal* carries an announcement from which these lines are taken:

Mrs. Freeman was finishing a tour of many states when she was in Louisville, but her seemingly tireless energy, confidence and vision and her fine conception of the opportunity presented by the developing organization which had honored her with its presidency formed one of the most interesting events of the best medical meeting ever held in Kentucky.

It was a great privilege to have this fine spirit amongst us, and we join her sorrowing friends in acknowledging the joy she gave us while she was here, where she exemplified the real values in life by her charm and her wisdom.

Just before leaving her home in Philadelphia she prepared her letter addressed to the auxiliary women of the entire country, and designed for the pages assigned the auxiliary in the American Medical Association *Bulletin*.

It seems fitting that we should give our remaining space this month to some excerpts from this last message of Mrs. Freeman to all of us.

Referring to her one-time presidency of the Pennsylvania State Auxiliary, she said:

The presidency of a state auxiliary does help in the preparation for the duties of a national office. As I think over my dark past, I am painfully aware of the inadequacy of my Pennsylvania administration, though to do me justice I did the best I could with the knowledge and experience I then had. This searching retrospect leads to the belief that among my many sins of omission probably the worst was my indifference to *Hygeia*, a shortcoming for which I hope now to make amends. The truth is that I didn't know enough about it and thought of it only in terms of magazine canvassing, a pursuit honorable no doubt but for which I have no real flair. It simply hadn't dawned on me that *Hygeia* is to the Auxiliary what the Auxiliary is to the Medical Society, the best available means of spreading health education. Where else can one get so much health information on such a variety of topics—reliable, up-to-date, authentic, authoritative, attractively presented, for every age and every calling? The waiting room of the cultist is the only place where it would probably be unwelcome, but, alas, many of those who need it most today be deprived of its help unless that good fairy, the Woman's Auxiliary, comes to the rescue.

Here is where my ignorance was fatal. There is no need, indeed small value, in ringing doorbells and wresting \$2.50 from the unwary housewife, much as her own little household would benefit from reading the magazine. The big way, the really effective way, to educate with *Hygeia* is for each county auxiliary to raise the money for a series of group subscriptions (you can always get special rates by applying to our national chairman, Mrs. Rogers N. Herbert, 1009 Stratton

ST. FRANCOIS-IRON-MADISON COUNTY MEDICAL SOCIETY

The St. Francois-Iron-Madison County Medical Society held its regular meeting in the court house at Farmington, October 25.

The membership committee reported favorably on the application of Dr. H. McClure Young by transfer from the St. Louis Medical Society. Dr. Young was elected.

We had two excellent speakers from St. Louis furnished through the courtesy of the Postgraduate Committee. Dr. C. F. Sherwin, St. Louis, presented a paper on "Diagnosis and Treatment of Superficial Cancer," illustrated with lantern slides.

Dr. R. H. Milligan, St. Louis, gave a paper on "Diagnosis and Treatment of Acute Infection of the Middle Ear," which was equally good.

Both papers were discussed by the members present. It was decided to hold the next meeting in November at Farmington.

C. H. APPLEBERRY, M.D., Secretary.

WOMAN'S AUXILIARY

WOMAN'S AUXILIARY TO THE AMERICAN MEDICAL ASSOCIATION

11th Annual Meeting, Milwaukee, 1933

President, Mrs. Walter Jackson Freeman, Philadelphia, Pa.

President-Elect, Mrs. James Blake, Hopkins, Minnesota.

WOMAN'S AUXILIARY TO THE MISSOURI STATE MEDICAL ASSOCIATION

9th Annual Meeting, Kansas City, 1933

President, Mrs. David S. Long, Harrisonville.

President-Elect, Mrs. Hudson Talbott, St. Louis.

ORGANIZED COUNTIES AND PRESIDENTS

COUNTY	PRESIDENT AND ADDRESS
Boone.....	Mrs. C. M. Sneed, Columbia
Buchanan.....	Mrs. C. H. Werner, St. Joseph
Cass.....	Mrs. H. A. Brierly, Peculiar
Cape Girardeau.....	Mrs. W. W. Ford, Gordonville
Clay.....	Mrs. H. J. Clark, Excelsior Springs
Cole.....	Mrs. James T. Leslie, Jefferson City
Gentry.....	Mrs. W. S. Campbell, Albany
Greene.....	Mrs. W. C. Cheek, Springfield
Jackson.....	Mrs. Wilbur A. Baker, Kansas City
Jasper.....	Mrs. Ulysses G. Hoshaw, Joplin
Johnson.....	Mrs. William R. Patterson, Warrensburg
Lafayette.....	Mrs. Odus Liston, Oak Grove
Linn.....	Mrs. Ola Putman, Marceline
Livingston.....	Mrs. Reuben Barney, Chillicothe
Miller.....	Mrs. G. D. Walker, Eldon
Randolph-Macon.....	Mrs. P. C. Davis, Moberly
St. Louis City.....	Mrs. A. G. Wichman, St. Louis
Saline.....	Mrs. L. S. James, Blackburn
Vernon-Cedar.....	Mrs. T. B. Todd, Nevada
26th District.....	Mrs. W. H. Breuer, St. James

Avenue, Nashville, Tenn.) and distribute them in the grand manner in your own county to schools, parent-teacher associations, rest rooms, libraries and other places.

Health is taught nowadays in practically every school in the country. Must teachers rely on the daily papers and the life insurance advertisements for their information?

Why not follow the example of the Auxiliary of Volusia County, Florida, and supply your local parent-teacher association with a three minute health talk to be read at each meeting? *Hygeia* will enable you to prepare something suitable with very little effort, and your little talk will encourage the members to read more thoroughly the magazine presented by the auxiliary. Be sure to file these three minute talks. Perhaps you can exchange with neighboring counties.

Many of us have lamented the blindness of the medical societies in not sensing the tremendous potential value of the auxiliary in educating the public concerning health. Is it possible that the boot is on the other leg? Will you do as I say, or as I do? Are we not sinned against, but sinning? Is the beam in our own eye rather than the mote in theirs?

Some auxiliaries, notably Missouri, which long ago saw the light under wiser guidance* than mine, give away literally several hundred subscriptions every year, and the Missouri Board of Education and the State Health Department agree that *Hygeia* is the authoritative source-book for a great part of their health education in the schools.

If you can persuade other organizations to share in the work and the expense you will have exemplified perfectly my idea of intelligent public relations work. The more we can put others to work, under our guidance, the greater our sphere of influence.

* Mrs. McGlothlin.

MISCELLANY

SIR RONALD ROSS 1857-1932

Sir Ronald Ross who won immortal fame by his work on malaria in India, died at the Ross Institute and Hospital for Tropical Diseases in London, September 16, at the age of 75. Son of General Sir C. C. G. Ross, K.C.B., he was born and educated in India and graduated from St. Bartholomew's Hospital Medical School, London, in 1881. He was a large, strong, athletic man with high energy and endowed with an intensely active mind and vivid imagination. While studying medicine he made excursions into literature, especially poetry and wrote many poems, some of decided merit. He loved music and played the piano with much skill. While waiting assignment to the Indian Medical Service, he occupied his time by setting some of Shelley's poems and other lyrics to music. In his delightful memoirs he says of this work, "My accomplishments like my sonatas were beyond my executive ability." His versatile mind found delight not only in medicine, music and literature but also in mathematics. Later in life he wrote a treatise on quaternions. He says, "My mathematical work has always claimed the chief share of my attention and at which I have worked for more than forty-two years. I prefer losing myself in it to any other muse."

The hot climate of India agreed with him and filled him with vigor. He discharged his medical duties with ability, manifesting no bent for scientific investigations but in his leisure hours led a strenuous life hunting, fishing, sailing, swimming, playing polo, golf and other athletic games, at which he excelled, besides tramping many miles in the broiling sun over hills and through valleys, swamps and jungle. He acquired a giant's strength, thus unconsciously equipping himself for the laborious and weary years that lay ahead. During this time he wrote a number of melodramas and novels several of which reached second editions, and also a number of poems some of which have the vision, rhythm, music and high emotional expression of true poetry.

After seven years Sir Ronald returned to England on a leave of absence and began work for the degree of D.P.H. He worked with E. E. Klein in bacteriology and became so fascinated with this study that he secured an extension of the leave to complete the course. He returned to India in 1890 as staff surgeon at Bangalore, an enthusiastic microscopist with a good working knowledge of bacteriology. The appalling mortality from malaria in the native population, over a million deaths a year, and the hospitalization of over 100,000 yearly out of 300,000 in the English troops, developed an intense desire to ascertain how the malarial *Plasmodium* was transmitted from man to man. He was acquainted with Laveran's discovery of the *Plasmodium* in the blood of malarial patients which his colleagues in a spirit of levity called "Laveranitary." From observation he was certain that it was not bad air from swamps (malaria of the Italians) or exhalations from moist soils (the miasmatic-theory) that produced the disease but some other thing not yet discovered, and he wrote several papers against the theory. Returning to England in 1894 he expressed some dissatisfaction with the Laveran discovery. He was advised to see Dr. Patrick Manson, a London practitioner who had done notable work on filariasis in China. Dr. Manson convinced Ross of the great importance of Laveran's discovery and furthermore from his own work on filariasis he was convinced that the malarial *Plasmodium* was not conveyed to man by bad air or other exhalations from swamps but was transmitted from man to man by the mosquito. Ross and Manson saw much of each other and became fast friends in an intimacy that continued throughout their lives.

Ross returned to India, deeply impressed by Manson's mosquito hypothesis and fired with a determination to prove it. However, from the very beginning he encountered almost insurmountable difficulties. There were no laboratories of research in the Indian hospitals. He was therefore compelled to carry his own laboratory equipment packed in a small case easy to transport from post to post, which consisted of a folding diagnostic microscope of his own design, a minimum amount of glassware and a few necessary stains and chemicals. As the government provided no financial aid he was compelled to pay servants and laboratory assistants out of his meager salary. Then he met unexpected opposition from hostile colleagues and stupid officers of higher rank, for here, for the first time, was science and the spirit of research invading the "sacrosanct spaces" of entrenched conceit and the dull routine of established hospital practice. His investigations were emphatically resented. As one officer expressed it, "The Indian Medical Service was not meant for research. . . . We are simply doctors." Another, writing to Manson, said, "There is a certain feeling against not only research but men whose names appear in print." In bitterness of soul Ross wrote, "The man who can do is not allowed to do because the man who cannot do is put in authority above him." Besides these handicaps he had no knowledge, unfortunately, of either biology or entomology and in particular lacked accurate knowledge of the great family of gnats, of which there are several hundred varieties, to which the mosquito belongs. To find the guilty mosquito among these innumerable hosts was indeed a gigantic undertaking and required high courage, unlimited enthusiasm and monumental self-sacrifices, especially in the intensely hot climate on the rocks of Secunderabad where he was stationed; but he persevered.

The government throughout the quest extended not the slightest assistance to him. Out of his own

pocket he paid three men to collect mosquitoes and with infinite patience dissected and studied mosquito after mosquito. He also paid Husein Kahn, a native sick with chronic malaria, one anna a bite to permit mosquitoes under observation to bite him. In his memoirs he says he dissected over 1000 mosquitoes with minute care, each examination taking two hours of steady hard searching with an oil immersion. Over 2000 hours. Think of it! Bending over a microscope in the torrid heat of an India summer with sweat from hands and brow rusting the instrument and fogging the cracked objective! The eye strain was terrible. During this period he wrote Manson: "My right eye is swollen and painful—I am dead beat toiling from 7 a. m. to 7:30 p. m."

Fortunately, he made voluminous notes of his work and kept in constant correspondence with Dr. Manson, writing in all one hundred ten letters to him and receiving fifty-five in reply. With the letters he sent specimens and notes of his work for criticism. Manson criticized, praised, aided and encouraged him in every way. When Ross met with unusual and trying difficulties and became heartsick and despondent, Manson urged him ever on. In one letter he wrote: "Look upon it (the search for the mosquito and the way it transmits the Plasmodium) as the Holy Grail and yourself as Sir Galahad and never give up the search." These letters were full of cheer and courage and always stimulated Ross to renewed efforts.

One day in 1897 one of the men brought in a large strange mosquito which proved to be the *Anopheles*. More were hatched from eggs and they were allowed to bite and suck the blood of Husein Kahn. After a proper incubation period they were killed and dissected and in one, No. 38, he found in the stomach pigmented granules like those in the crescents. His own account of the discovery given in a lecture delivered by him in the fall of 1899 at London, is a classic in English literature. It follows:

The dissection was excellent. I went carefully through the tissues, now so familiar to me, searching every micron with the same passion and care as one would search some vast ruined palace for a hidden treasure. Nothing! No, the new mosquitoes also were going to be a failure. There was something wrong with the theory. But the stomach tissues remained to be examined, lying there empty and flaccid before me on the glass slide, a great expanse of cells like a courtyard of flagstones, each one of which must be scrutinized—half an hour's labor at least. I was tired. What was the use? I must have examined the stomachs of a thousand mosquitoes by this time. But the Angel of Fate laid his hand upon my head and I scarcely began my search again when I saw a clear and almost perfectly circular outline before me about 12 microns in diameter. The outline was much too sharp, the cells too small to be an ordinary stomach cell of a mosquito. I looked a little further. Here was another and another exactly similar cell . . . and then in each of these cells was a cluster of black granules, black as jet and exactly like the black pigment granules of the *Plasmodium* crescents. . . I laughed and shouted for the hospital assistant but he was away having his siesta. "No, no," I said, "Dame Nature, you are a sorceress but you don't trick me so easily." I made rough drawings in my notebook . . . sealed my specimens and went home to tea and slept solidly for an hour. When I awoke with mind refreshed my first thought was "Eureka, the problem is solved." Next day I went to the hospital intensely excited. The last survivor of the batch, mosquito No. 39, was alive. After looking through yesterday's experiment I slew and dissected it with shaking hand. There were the cells again, twenty-one of them just as before, only much larger . . . the cells were therefore parasites and as they contained the characteristic malarial pigment were almost certainly malarial parasites growing in the mosquito's tissue. The thing was really done . . . the kind of mosquito which carries the parasite and the form and position of the parasite within it. We could not find the first without knowing the second nor the second without knowing the first. The exact route of the infection with this disease, which annually slays its millions of human beings and keeps whole nations in darkness, was revealed. The minute spores enter the salivary

glands of the mosquito and pass with its poisonous saliva directly into the blood of man. Never in our dreams had we imagined so wonderful a tale as this.

Ross was greatly elated and in a moment of exaltation wrote the poem "In Exile." Following are the first three verses:

This day relenting God
Hath placed within my hand
A wondrous thing; and God
Be praised. At his command

Seeking His secret deeds
With tears and toiling breath
I find thy cunning seeds,
O million murdering Death.

I know this little thing
A myriad men will save.
O Death, where is thy sting,
Thy victory, O Grave?

At last news of his discovery reached the government and he was sent to Calcutta to take charge of a small laboratory with instructions to devote six months to the study of malaria and kala-azar. He confirmed and amplified his discovery that the *Anopheles* mosquito is the sole means of transmitting the great plague, malaria. From Calcutta he was suddenly transferred to a distant station where for two years for lack of human material, he carried out observations upon a protozoan disease of birds transmitted by a mosquito and completed the cycle of the parasite's development from host to carrier and back again.

Broken in health and weary Ross resigned from the Indian Medical Service and returned to England in 1899. Here it was the writer's good fortune to attend a lecture and demonstration given by Sir Ronald to a small group of physicians and scientists. Before the lecture he looked tired and haggard, but when demonstrating his precious specimens and explaining the work he was alive with animation and glowed with enthusiasm. Among other things exhibited was the small folding diagnostic microscope with its cracked objective with which he made his discovery. It is now preserved in the Hunterian Museum.

Following a short rest he began writing and publishing articles and books on the cause, treatment and prevention of malaria and became the supreme authority on the subject. He joined the newly organized Liverpool School of Tropical Medicine and his services as an expert on malaria carried him far and wide all over the tropics. His discovery, as he had predicted, was claimed by others and gave rise to a protracted acrimonious discussion. However, a committee from Stockholm was quietly investigating the subject and after hearing all parties to the controversy and weighing all the evidence decided in favor of Ross. As a result, he was awarded in 1902 the Nobel Prize in Medicine. For this award he will ever be grouped among the notables of his generation. In 1911 he was knighted by the king. He received many medals, rewards, degrees and decorations from governments, scientific societies and universities all over the world. He joined the army in the World War and gave good service in the Dardanelles studying tropical dysentery then prevalent in the troops. In 1917 he was appointed consulting physician on malaria to the War Office. He was promoted full colonel in 1918 and at the close of the war created K.C.M. He then retired to private life. Together with Sir William Simpson and Sir Aldo Castellani he established the Ross Institute and Hospital for Tropical Diseases in London. It was opened by the Prince of Wales in 1926 and has proved

a useful institution and of great credit to the founders.

This man whose work has been the means of saving annually the lives of thousands upon thousands of British subjects; that had made habitable for white man vast areas of the pestilential tropics and from which untold wealth has poured into British coffers was in his old age literally abandoned by the country upon which he had conferred so much glory.

Late in life he was stricken with an incurable malady and found himself a poor man with several dependents. He was compelled to offer his treasured manuscripts and papers for sale. Fortunately, they were purchased by Lady Houston who graciously donated them to the Ross Institute. A few physicians and scientists cognizant of his condition organized a relief society and through medical and scientific journals asked aid for him. The letter of appeal was published in this JOURNAL. To the everlasting credit of the medical and other professions, the appeal met with ready response and the sum of \$60,000 was quickly raised of which \$10,000 was subscribed by the Government of India. It is gratifying to his friends to know that through their efforts the last years of his life were made peaceful and comfortable. The value of the work of Sir Ronald Ross is so enormous that it is impossible at the present time to estimate it and any attempt to do so must end only in rhapsodies. However, the following letter from General W. C. Gorgas, Surgeon General of the United States Army during the World War and former Surgeon General of the United States Public Health Service, gives some idea of its magnitude and importance to mankind:

Hyde Park Hotel,
March 23, 1914.

My Dear Sir Ronald:

Before leaving England I wish to express to you the debt of gratitude we all feel to you for the great work you have done in the field of tropical medicine. As you are aware, malaria was the great disease that incapacitated the working forces at Panama before our day. If we had known no more about the sanitation of malaria than the French, I do not think that we could have done any better than they did. Your discovery that the mosquito transferred the parasite from man to man has enabled us at Panama to hold in check this disease, to eradicate it almost entirely from most points on the Isthmus where our forces were engaged.

It seems to me not extreme, therefore, to say that it was your discovery of this fact that enabled us to build the Canal at the Isthmus of Panama.

As this is an expression of my personal opinion as to the great value your important work has been to us in sanitation at Panama, you are at liberty to use this letter in any way you please.

With kindest regards and best wishes, I remain,

Sincerely yours,

W. C. GORGAS.

Ronald Ross was a great humanitarian, one of the greatest England has produced, and his name will go down to posterity along with those other great benefactors of mankind, Pasteur, Koch, Lister and Jenner.

AMAND RAVOLD.

BOOK REVIEW

ENDOCRINE MEDICINE. By William Engelbach, M.D., F.A.C.P., B.S., M.S., D.Sc., Professor of Clinical Medicine, St. Louis University School of Medicine, 1911-24; Physician-in-Chief, St. John's Hospital, 1909-24; etc. With a foreword by Lewellys F. Barker, Professor Emeritus of Medicine, The Johns Hopkins University School of Medicine.

Three volumes and an index volume. With 933 illustrations. Charles C. Thomas, Springfield, Illinois. 1932.

Engelbach's work represents only a small part of what could have been written by this author on this subject. Even though it appears at first sight to be voluminous, the contrary is the fact. A subject of such importance cannot be adequately portrayed in a few words. Probably much of the confusion on endocrinology existing in the minds of many at the present time is due to books whose authors have not gone sufficiently into detail regarding the fundamentals which underlie this branch of medical science.

Endocrinology is as old as the existence of life but our knowledge of the subject is of comparatively recent date. It is within the remembrance of doctors who graduated in medicine only twenty years ago that very little was known regarding the ductless glands and their function at that time. Except for a few glands such as the thyroid or the adrenal medulla, these glands were considered of little importance, possibly only vestigial remains of structures which through the processes of evolution had lost their function if, indeed, they had ever had such a status.

Pioneers in scientific investigation have ever been confronted with the absence of definite data to constitute the foundation upon which to build. Such was the position of Dr. Engelbach when he began to develop a consuming interest in endocrinology twenty years ago. His alert and searching mind became aware of conditions which occurred again and again in his patients with such similarity as to suggest definite endocrine syndromes. The available knowledge upon this subject at that time was fragmentary. Possessing the power of analytical reasoning he was one of the first men to suggest probable solutions for the various pituitary and gonad abnormalities, especially as they effect growth, sexual development and function. When he began as an apostle of this fascinating subject the science of biological chemistry had not reached its present stride. The discoveries of Kendall, Takamine, Doisy, Banting, Collip, Zwingler, Pfaffner and Hartman are giving the profession something definite with which to work and endocrinology is being lifted from the realm of speculation and doubt to a sound foundation of fact.

This treatise has been dealt with in a masterly manner. It begins with a discussion of the establishment of the fundamentals, knowledge of which is so essential to the understanding of any difficult subject matter. He elucidates our present conception of the etiology of endocrine disorders giving the gross and microscopic anatomy of the glands, following this with their physiology. More than 2000 clinical case reports accumulated over a period of more than ten years give an interpretation of the hormonal symptoms and signs presented by each. Diagnostic procedures and methods are described. Differentiation of endocrine and nonendocrine disorders is discussed and the relation of the endocrinopathies to general medicine and to the specialties and to general health are explained as well as the relation of the internal secretions to heredity, to constitutional and to physical and mental development of the individual and the race.

The perusal of this work by the interested student of endocrinology will enrich his knowledge and lead to an understanding of a branch of medicine admittedly difficult to assimilate at the present time.

A. A. W.

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MANAGEMENT OF ACUTE BRAIN INJURIES

CLAUDE C. COLEMAN, Richmond, Va. (Journal A. M. A.), discusses certain observations made on a series of 596 patients who received treatment in the Hospital Division of the Medical College of Virginia during a period of five years, closing Jan. 1, 1929. The methods employed in the treatment of this group are briefly reviewed. Of these 596 patients, 453 had head injuries of sufficient severity to produce a demonstrable fracture of the skull or unconsciousness, or both. There were 275 demonstrated fractures of the skull in this series. Of the group of 596, 143 are excluded from consideration here because of the fact that, although they had head injuries requiring a stay in the hospital, they were injuries of a mild type. In the group of 453 under consideration, 78 cranial operations were performed, and of these operations 32, or 7 per cent, were subtemporal decompressions, 22 on the right side and 10 on the left. In the 453 cases there were 84 deaths, a mortality of 18.5 per cent, 34 patients dying in less than twelve hours, and 50 after this period. The mortality is and probably will remain inevitably high in those patients severely shocked from extensive damage to the basal structures and widespread laceration and contusion of the brain. A smaller group, because of high intracranial pressure due to contusion with edema and to subdural and extradural hemorrhages, will require a subtemporal decompression or some form of operation for removal of the clot. The series shows that subtemporal decompression with drainage was done in more than 7 per cent of the cases, to offset intracranial pressure when there were no localizing symptoms. In the author's experience, palliative measures, such as dehydration, hypertonic solutions and therapeutic spinal puncture, cannot be advantageously substituted for subtemporal decompression with drainage in all cases of brain injury. The patients in the series who urgently needed relief from compression did better with operation, frequently combined with these more simple measures. If it is necessary to use ether anesthesia in order to perform a subtemporal decompression, this should be noted as a relative contraindication to operation, but the urgent need for relief from pressure may nevertheless require operation. Cranial operations for trauma can generally be done with local anesthesia.

AMERICAN MEDICAL ASSOCIATION GIVEN FAVORABLE VERDICT

A radio station, a magazine and printed catalogs are fertile mediums for a quack's use in advertising, to lure hundreds of cancer sufferers to his "institute." A promoter of an alleged cancer cure, Norman Baker, of Muscatine, Iowa, recently sued the American Medical Association for half a million dollars in damages for so-called libelous statements made in *Hygeia* and in *The Journal of the American Medical Association*.

The case came to trial in the federal district court in Davenport, Iowa, and was heard before Federal Judge Gunnar H. Nordbye of Minnesota. The trial lasted four weeks. Testimony was offered by the American Medical Association through physicians and by scores of depositions, and much testimony was also presented by Baker. The jury returned a verdict for the American Medical Association on March 3. Dr. Arthur J. Cramp writes of "Norman Baker vs. The American Medical Association" in *Hygeia*.

Baker's previous enterprises had been commercial

rather than medical, for he sold cigars, radio sets, storage batteries, flour, coffee, canned fruit, silverware, brooms, alarm clocks, overcoats, mattresses, automobile tires, typewriters and other things. He even gave a course in oil painting in ten lessons by mail, although he admitted that he could not paint.

His exploits as a "cancer curer" were far more profitable before the appearance of the editorials exposing him in publications of the American Medical Association. Baker claimed that his profits fell from \$75,000 for the month of June, 1930, to only \$7,000 in January, 1932, following the publication of the editorials.

The cancer cure consisted of hypodermic injections which Baker claimed made the cancer soften and pass away. So insidious were his methods that the American Medical Association was able to put in evidence between twenty-five and thirty death certificates of patients who died at the Baker Institute and many of these same persons and others who died shortly after leaving the Institute, Baker advertised as being "cured of cancer."

ACTIVE, GROWING BOY REQUIRES NUTRITIOUS DIET FOR DEVELOPMENT

Tommy, aged 9, is a composite picture of several physiologic sketches, according to two writers in *Hygeia*. Frances Stern and Mary Pfaffmann have made a fascinating game of computing Tommy's diet. Since food requirements depend on bodily necessities, the authors see Tommy in four distinct pictures. In the first is seen his skeletal foundation that holds the child's body erect, and of which the teeth are a part. For this bodily need Tommy requires phosphorus and calcium, of which 99 per cent is found in foods such as the leafy vegetables, fruits, whole grain breads and cereals, eggs and cheese.

As a mass of tissue or muscle, Tommy's constant growth and renewal require good sources of protein. In another picture is seen the circulatory system which supplies the entire body and demands iron. The starches, sugar and fats are needed for fuel for Tommy's daily activities. From these facts the authors build up a correct diet for the active boy of 9.

CITRUS FRUIT IS POPULAR FOR JUICES AND SALADS

The citrus fruits, including the oranges, lemons, limes and grapefruit, and less popularly the calamondin, carombola, citrange, imbus, kumquat, limequat and mangosteen, have recently become popular in preserves, fruit juices and salads. In part two of her article on fruits, appearing in the September *Hygeia*, Miss E. M. Geraghty describes the citrus fruit family and many tropical neighbors. She suggests some fruitful hints in food preparation.

It is well to remember that cantaloupe, named from Cantaloupe, Italy, where it was first grown, should be served cold, but ice should never be put in the seed cavity as this spoils the delicacy of the flavor.

Grapejuice is made by expressing the juice of the grapes, heating it not above 180 F. and sealing in sterile bottles. The major amount of grape juice is made from Concord grapes.

Home canned pineapple is seldom as good as commercially canned pineapple because the fully ripened fruit is difficult to transport; therefore the fruit secured in the markets has not as fine a flavor as that canned near the fields where it is grown.

